

Louisiana State University LSU Digital Commons

LSU Master's Theses

Graduate School

2005

Yellow fever in the Felicianas: the epidemic of 1878 and its effects upon the residents of these rural parishes

Mary Jane Duke Russell

Louisiana State University and Agricultural and Mechanical College, mrusse6@lsu.edu

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_theses



Part of the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Russell, Mary Jane Duke, "Yellow fever in the Felicianas: the epidemic of 1878 and its effects upon the residents of these rural parishes" (2005). *LSU Master's Theses*. 1232.
https://digitalcommons.lsu.edu/gradschool_theses/1232

This Thesis is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Master's Theses by an authorized graduate school editor of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.

YELLOW FEVER IN THE FELICIANAS: THE EPIDEMIC OF 1878 AND ITS EFFECTS
UPON THE RESIDENTS OF THESE RURAL PARISHES

A Thesis
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

In

The Department of Geography and Anthropology

By

Mary Jane Duke Russell
B.A., Louisiana State University and
Agricultural and Mechanical College, 1990
May, 2005

ACKNOWLEDGEMENTS

The friendly and helpful assistance of Mildred Worrell, Holice Jackson, and Ann Reiley Jones of Clinton, “Miss Bessie” Palmer, and the late Mamie Rouzan of Jackson were invaluable resources for personal histories and introductions in East Feliciana. My thanks also go to Libby Dart and Anne Klein of St. Francisville who made gracious efforts to provide information about West Feliciana. I must also recognize the tolerance and forbearance of my family, friends and co-workers at River Bend Station, who listened politely to hours of frustrated rhetoric as well as detailed discussions of precious finds. I am grateful to the late Dr. Michael J. Perich who helped me to understand the disease and the vector.

I must give thanks for the suggestions and corrections of the members of my committee, Heather McKillop, Mary Manhein and Andrew Curtis. I am profoundly grateful for the guidance and encouragement of Dr. McKillop, my major professor.

I thank all of the professors under whom I learned to plumb the complexities of what it means to be human. Finally, I am grateful for the patience of the staff at Hill Memorial, Louisiana State Archives, and the various town halls, libraries and museums that I visited to piece together bits of extant data to tell the story of the residents of the Felicianas as they dealt with the yellow fever epidemic in the fall of 1878.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
ABSTRACT	iv
CHAPTER	
1 INTRODUCTION	1
2 METHOD AND THEORY	5
Methods	5
Expected Results	9
Importance of This Study	10
3 VECTOR.....	11
Virus	11
Vector	11
Disease Prevention	15
Disease Treatment	16
4 BACKGROUND	20
Setting the Scene	20
Origins of Yellow Fever.....	21
Symptoms.....	22
Searching for a Cure.....	22
5 IN THE FELICIANAS	25
6 YELLOW JACK ANNOUNCED	32
7 THE SCOURGE APPROACHES	40
8 THE PESTILENCE CONTINUES.....	42
West Feliciana	42
9 LOOKING FOR FIRST FROST	49
East Feliciana	49
10 DISCUSSION AND CONCLUSIONS	61
REFERENCES CITED.....	71
VITA.....	78

ABSTRACT

This research documents the spread of yellow fever across the rural Louisiana parishes of East Feliciana and West Feliciana in 1878 and examines the reactions and responses of the residents to medical, social and economic stresses produced by that epidemic. Descriptive details highlight the variability of individual ideas and mindsets at play against the backdrop of accepted paradigms, belief systems and current technology.

In 1878 the Aedes aegypti mosquito had not yet been identified as the vector of the arbovirus (arthropod borne virus) that causes yellow fever. A short history of yellow fever in the United States and a discussion of the vector and the arbovirus are included to clarify the advance of the disease.

Quarantines of the towns and villages of the Felicianas prohibited burial of yellow fever victims in community cemeteries and official records for these two rural parishes were rarely available at the parish, state, or federal level. Information was drawn primarily from texts, journals and newspapers of the time. Notations from the 1878 journal of Henry Marston, a resident of Clinton, Louisiana, were invaluable.

The advance of yellow fever into East and West Feliciana is outlined from the first reported cases in New Orleans in May of 1878. The records of each parish are examined separately and the information gathered is combined and analyzed.

CHAPTER 1 INTRODUCTION

This project is a small addition to a large body of work relative to the spread of disease in general and the spread of yellow fever in particular. Medical journals and other major works, from *Journals of Medical History* to Erwin H. Ackerknecht's History and Geography of the Most Important Diseases (1965) and A Short History of Medicine (1982), have traced the spread of disease and the evolution of medical theory and practice. Fascinating and rare publications record the history of plagues and treatments proscribed. One such text is the publication A Practical Treatise of the Plague and All Peftilential Infections that have happen'd in this Ifland for the Laft Century (1720), by Joseph Browne, L.L.M.D., that listed air, infected goods, houses, conversation with diseased persons, and diseases that cause diseases as the sources of infection. Another is A scheme for Proper Methods to be taken fhould it pleafe GOD to vifit us with the Plague (1721), by Sir John Colbatch, that layed out the logistics of a “proper” medical response in London, beginning with a separation of London into two districts – London and Westminster – each under the direction of a local physician.

Records of quarantine systems that were instituted in response to disease are massive, as is the documentation of the effects of those systems on commerce and prosperity. Jacques Meyer May's Ecology of Human Disease (1958) was one among many studies addressing medicine geographically. Many biological and epidemiological studies have concentrated on vector borne diseases, their causes and treatment.

Countless works addressed yellow fever specifically. Many concerned yellow fever in the continental United States. Documentation ranged from records of boards of health and sanitary commissions, through theories of cause and effective treatment -- in private texts as well

as medical journals -- to histories of epidemics, studies of the vector, and related social and political analyses.

Many histories of social, medical and political organizations that responded to the threat or the reality of yellow fever have been chronicled. Flora Bassett Hildreth wrote The Howard Association of New Orleans, 1837-1878 (1975), tracing the work of that benevolent organization. In Health and Medicine in American Society Series, Margaret Humphreys addressed “Yellow Fever and the South (1992).” Sir Rickard Christophers wrote a definitive text about the yellow fever vector titled Aedes aegypti (L.) The Yellow Fever Mosquito: Its Life History, Bionomics and Structure (1960).

Dr. Joseph Jones, who was a member of the New Orleans Board of Health in 1878 and later became president of that body, wrote Medical and Surgical Memoirs, Containing Investigations on the Geographical Distribution, Causes, Nature, Relations and Treatment of Various Diseases (1876-1890) and The Relation of Quarantine to Commerce in the Valley of the Mississippi River, During a Period of Eight Years, 1880-1887 (1889).

Dr. Carlos Juan Finlay’s treatise titled “Yellow Fever: Its Transmission by Means of the Culex Mosquito” appeared in the American Journal of the Medical Sciences in 1886. In 1931 Dr. Henry Rose Carter traced yellow fever to its point of origin in Africa in a text titled Yellow Fever: An Epidemiological and Historical Study of its Place of Origin (1931).

The Walter Reed Commission, credited with proving that the carrier of yellow fever was the A. aegypti mosquito and with developing a vaccine as a preventive, has been thoroughly documented. The Board of Health records, the American Medical Society journals, and several biographies document that research project. Reed himself wrote about the research. Among his publications was “The Propagation of Yellow Fever: Observations Based on Recent

Researches,” for the Medical Record (1901). Albert E. Truby wrote the Memoir of Walter Reed: The Yellow Fever Episode (1943) and Rennie W. Doane wrote Insects and Disease (1910) which included a chapter on the research and experiments of the Reed Commission.

Louisiana established the first state board of health in the United States in 1855. Gordon E. Gillson’s dissertation, “The Louisiana State Board of Health: The Formative Years” chronicled the development and evolution of that body. The rise and demise of the National Board of Health, which came about in response to the devastation of yellow fever epidemics, was chronicled in annual reports from 1873 to 1905. This organization was replaced by the United States Public Health Service. The Marine Hospital Service, to which the National Quarantine Act of 1878 transferred the functions and authority of quarantines, eventually evolved into the United States Public Health Service. Wilson Smillie published a text titled Public Health, Its Promise for the Future (1955) outlining the development of this organization and its future possibilities. Yellow fever is still found in the tropical areas of Africa and the Americas and is therefore a continuing concern of the World Health Organization (WHO). The “diagnosis, surveillance, management of cases and epidemics, and prevention of the disease” is delineated in a 1986 publication titled The Prevention and Control of Yellow Fever in Africa.

Histories of yellow fever epidemics have typically focused on either an overview of the spread of the disease and its effects, of which Jo Ann Carrigan’s The Saffron Scourge: A History of Yellow Fever in Louisiana 1796-1905 (1994) is a highly regarded example, or on a study of an individual epidemic such as Khaled Bloom’s The Mississippi Valley’s Great Yellow Fever Epidemic of 1878 (1993). Yellow Jack has been identified as an urban disease and, consequently, studies have also concentrated on specific urban areas. For instance, Ashbel

Smith wrote Yellow Fever in Galveston, Republic of Texas, 1839 (1951) and John Duffy wrote Sword of Pestilence: The New Orleans Yellow Fever Epidemic of 1853 (1966).

However, the saffron scourge could -- and did -- spread into rural areas. This study adds to the vast collection of data an analysis of the spread of yellow fever into the rural parishes of East and West Feliciana, Louisiana in 1878.

CHAPTER 2

METHOD AND THEORY

Methods

East and West Feliciana Parishes were chosen as the locale for a study of yellow fever across a rural area for several reasons. The residents of East Feliciana and West Feliciana were an ethnically homogenous group. Cases of yellow fever were reported in both parishes in 1878. Neither contained a village of more than 2,000 inhabitants. Both maintained a constant flow of trade up and down the Mississippi River. Both parishes had a river port and a connection by rail to interior population centers. (See Figure 2.1.)



Figure 2.1. Map showing the location of East and West Feliciana. The breakout highlights the population centers and railroads of 1878 (Map designed by Mary Lee Eggart, Louisiana State University).

Deaths from yellow fever each year in the lower Mississippi Valley from 1796 to 1905 were recorded over an average eight-month duration from May to December. This study was initially designed to locate and identify burials in the two parishes from May 1, 1878, to December 31, 1878, and compare the number of burials in 1878 with the number during the same time frame in 1880, a non-epidemic year. The location of the 1878 burials was to be used to trace the spread of the disease across the landscape. The methodology to be used was discovery and analysis of family, community, and parochial cemeteries in East and West Feliciana Parishes cross-mapped with the towns or settlements in which the deceased would most logically have traded and worshiped – population centers within several hours to a half-day's ride on horseback or by horse and wagon. Results were not possible using these criteria because the quarantines prevented burials in community cemeteries and many graves were isolated and often unmarked. A new methodology was needed. The study became instead primarily an analysis of cross-referenced archival records. Information was drawn from texts, journals, newspapers and documents of the time to show the pattern of infection and the range of cultural mindsets and adaptations.

Census listings, wills, public and private library holdings, obituaries, funeral records, state and parish archives, church records and local historical societies were sought in order to provide as complete a record as possible. Archival records were researched and interviews were obtained in an attempt to discover the locations of yellow fever fatalities during the applicable time frames. Official 1878 records for these two rural parishes were rarely available at the parish, state, or federal level.

Most official sources provided no information for 1878. Mortality records were not required in East and West Feliciana in 1878. No 1878 West Feliciana Police Jury, Town Council

or census records were found. In 1939 the Works Project Association (WPA) microfilmed official records of city, parish and state throughout Louisiana. Records for West Feliciana Parish and the towns of St. Francisville, Bayou Sara, and Tunica were missing. Records for East Feliciana Parish and the town of Clinton were incorporated, but the town of Jackson was missing (W.P.A. Collection). The local historical societies could offer no information for 1878.

The minutes of the Board of Aldermen for the City of Clinton provided valuable insights. The East Feliciana Assessors Office provided surveys before and after 1878 along with advice and directions. Similar assistance was not available in West Feliciana. Ante-bellum records were available in the library and Town Hall of St. Francisville, as were scattered records from 1900 forward. Unfortunately, 1878 fell within an undocumented period. Table 2.1 lists the federal and state offices initially contacted. Table 2.2 records parish and township sources.

Table 2.1 – Listing of the State and Federal Data Sources Initially Contacted

UNITED STATES	STATE OF LOUISIANA
National Archives and Records Administration Southwest Region Fort Worth, TX	Louisiana State Archives Baton Rouge, LA
United States Postal Records Washington, DC	Louisiana State Library Baton Rouge, LA
Library of Congress Washington, DC	Hill Memorial Library Louisiana State University
	Middleton Library Louisiana State University

Table 2.2. Listing of the Parish and Township Data Sources Initially Contacted

EAST FELICIANA PARISH	WEST FELICIANA PARISH
Assessor's Office Clinton, LA	Police Jury St. Francisville, LA
Mayor's Office Clinton, LA	Town Hall St. Francisville, LA
Mayor's Office Jackson, LA	Grace Episcopal Church St. Francisville, LA
Clerk of Court Clinton, LA	West Feliciana Historical Society St. Francisville, LA
Louisiana State Hospital Jackson, LA	Clerk of Court St. Francisville, LA
The Republic of West Florida Historical Association Jackson, LA	Audubon Library St. Francisville, LA
	Tunica Post Office Tunica, LA

The bulk of the information gathered came from extant issues of newspapers from St. Francisville, Clinton, New Orleans, Baton Rouge, Woodville, and Plaquemine. Table 2.3 lists the newspapers researched.

Table 2.3. Listing of the Newspapers Researched for 1877, 1878 & 1879

Daily Advocate, Baton Rouge, LA	Weekly Advocate, Baton Rouge, LA
Times, New Orleans, LA	Patriot-Democrat, Clinton, LA
Republican, Woodville, MS	Iberville South, Plaquemine, LA
Daily Picayune, New Orleans, LA	Weekly Picayune, New Orleans, LA
Feliciana Sentinel and The Watchman, St. Francisville, LA	New Orleans Price Current, Commercial Intelligence & Shipping List

Data collected were accumulated in excel spreadsheets and then transferred to an access database for timeline analysis. Often death or burial locations were estimated. For instance, Mr. Monroe Sessions was denied right of burial in the Clinton cemetery so he was buried “at home”

(Marston Journal September 19, 1878). The precise location of his death and burial could not be identified, however; his burial would have been south of Clinton somewhere along the west side of Sessions Bayou, southeast of Clinton. According to Mr. Henry Marston, Mr. Sessions' coffin was opened at graveside to show that he was not jaundiced, ergo, he did not die of yellow fever (Marston Journal September 19, 1878).

Expected Results

Spikes in 1878 deaths in a given locale should coincide with loci of infection and indicate the probable source of the infection, as well as the direction in which it spread. An attempt has been made to identify the victims of the yellow fever epidemic of 1878 among the people of the Felicianas, and where possible, to record their places of exposure. Across these rural parishes, as in all susceptible areas, decisions were made based not only on the erroneous disease theory of the time, but also on other needs perceived to be of equal value with disease prevention. In recognition of the interplay of human endeavors, and acceptance that a multi-faceted approach was the best means for analysis of human activities, consideration was given to the pattern revealed through examination of economic, social and philosophical discussions outlined during and immediately after the epidemic.

A yellow fever epidemic depended on the presence of warm weather, a "critical mass" of mosquitoes as well as susceptible humans, and a means of transport (Carrigan 1994). Mosquito larvae or adult mosquitoes could have been carried up the Mississippi River system by riverboats and barges and overland by rail and wagon. An infected human could have come into the area and been bitten by an uninfected mosquito or an infected mosquito could have arrived and found susceptible hosts. In order to display a counterpoint to the 1878 medical knowledge and

consequent preventive measures and treatment, a short discussion of the virus and the vector has been included.

Interviews with local residents were solicited to provide details passed down to them from generation to generation about family members and friends lost to yellow fever. The changing pattern of commerce was tied to the incidence of yellow fever deaths. Commerce was adversely impacted once an area was classified as “infected.” Consequently, the established paths of trade for the Felicianas in 1878, how and when they were affected, were discussed as well.

Importance of This Study

In 1878 preventive measures considered appropriate and effective treatment for yellow fever were based on the prevailing medical theories. The latter part of the 19th Century saw a rise in germ theory but the avenues of infection were considered to be direct contact with infected persons or things. Decisions made to avoid yellow fever were rational assuming the prevalent theories of infection were accurate but the accepted medical paradigm did not fit yellow fever. Analysis of this particular set of sites, with historical verifications to test hypotheses, shows that human economic and political endeavors were in competition with environmental and physical realities in the fall of 1878. These competing realities are, in fact, the substance of the continuing dialogue of current societies. This analysis brings the many threads of cultural adaptation to disease into high relief for this case in point – yellow fever in a rural area.

CHAPTER 3

THE VECTOR

Medical and biological data that are relative to this study concern the origins of urban yellow fever, the distribution, life span and infective properties of the vector, and what would have been serendipitous control measures in 1878.

Virus

Urban yellow fever is a hemorrhagic fever caused by an arthropod-borne flavivirus (arbovirus). It can be mild with few or no symptoms. It can also be quite serious with sudden onset of fever, chills, headache, muscle aches, and exhaustion, and possibly with symptoms of internal bleeding and death.

Vector

There are two forms of yellow fever -- the urban form that attacks humans, carried by the Aedes aegypti mosquito, and the forest form in which the vector is rarely the A. aegypti. According to Sir Rickard Christophers, the A. aegypti is perhaps the only mosquito to spread around the globe with the assistance of humans. Although the normal flight range of the mosquito is about 400 meters (WHO 1986:23) it has worldwide distribution and is only limited by parameters of temperature, humidity and altitude (Christophers 1960:54). Based on the presence of the most numerous species of the same subgenus, some very closely related, Africa is viewed as the original home of the A. aegypti. Also, humans are not part of the life cycle of some of the African species, reinforcing the view that Africa is the source of A. aegypti. Various species of mosquito are capable of transmitting the arbovirus that causes yellow fever in the forest form, considered to be the first stage of yellow fever dissemination. Testing for immunity has indicated susceptibility among some species of monkey and other primates. Mice and some

other vertebrates, as well as herons and kingfishers, have also been shown to be susceptible. The transmission of yellow fever from a forest mosquito to a human to A. aegypti could be the beginning of an epidemic (Christophers 1960:57). Transmission of the urban form of yellow fever is from human to human [horizontal transmission] via a biting mosquito. The virus is also transmitted through infected eggs to the next generation of mosquitos [vertical transmission] (“Yellow Fever Fact Sheet” 2004:3).

The A. aegypti rarely occurs beyond the latitude of 45 degrees N. In North America it is recorded farther north in the east than in the west. In most of the states east of Oklahoma the mosquito occurs near 40 degrees N, and has in the past been reported as far north as Boston (42 degrees 27 minutes N) (Christophers 1960:36). This distribution relates to an approximate isothermic boundary of 50° F, which is lethal to the imago (adult) and larva. The eggs are viable down to 35° F. The areas susceptible to yellow fever fall into three categories. In those areas in which the temperature never drops below 50° F the mosquitoes breed continuously. Where the temperature never falls below 35° F the mosquito can over-winter as eggs. In all other zones they breed and spread in the summer and then die out. Studies in New Orleans have shown that adults are absent from January to April (Christophers 1960:39). During one of South Louisiana’s mild winters the temperature may not drop below 35° F, thereby vastly increasing the mosquito population.

The imago has often been found indoors resting on the vertical surfaces of hanging clothing. Moving into a protected warmer environment would extend the life span of the mosquito beyond that predicted by recorded outdoor temperatures (Christophers 1960:57). A. aegypti mosquitoes remain near human habitation and if they enter a building will usually remain there until they need to deposit their eggs (Doane 1910:139).



Figure 3.1. Drawing of the Aëdes Aegypti Mosquito Copied from Figure 104 (Insects and Disease by Rennie W. Doane) Reprinted by permission Henry Holt and Company, LLC.

In addition to temperature limitations, propagation of the species requires a blood meal for formation of the eggs and water suitable for the development of the larvae. The A. aegypti does not breed in open water. The larvae are found most often in clean water or in water containing a moderate amount of organic matter. Although they may survive in brackish water the seawater content must be less than 50%. They require shelter from natural enemies. They are not found above 7800 feet. Their natural habitat is in towns, not in forests. They flourish in warm, moist climates (Christophers 1960:35-42).

A. aegypti prefers a sheltered or confined location where the eggs can be secured to a hard material near the surface of the water. Conditions were especially favorable for this mosquito around town dwellings where open water pots, cisterns, and flower vases provided

protected breeding places and humans were available to feed upon. Breeding places were also plentiful in the various collections of water at river landings and coastal harbors. They also found good conditions for propagation and dissemination on the early boats and ships that carried open collections of rainwater and exposed stores of fruit and sugar. Laboratory tests have shown that the life span of the mosquito is extended with an abundant sugary food supply (Christophers 1960:468).

The life cycle of the mosquito includes egg, several stages of larva, pupa and imago. The mosquito can be transported as an adult, a larva and an egg. Given optimum conditions; that is, a good water supply, a temperature of about 80° F, regular sugary feeds, occasional blood feeds, and avoidance of natural enemies and accidents, the maximum life span of a mosquito from oviposition, or depositing of eggs, to demise of imago, could approach six months (WHO 1986:23). The females typically take blood feeds several times and lay eggs after each. The time required for the mosquito to become infective after an infective feed depends on the temperature. At 75° to 80° F it would be about eight days. The time of infectivity in humans is limited to about three to four days at the height of the fever (Christophers 1960:54-59). Consequently, assuming a mean temperature of 80° F, if an uninfected mosquito took a blood feed from a yellow fever patient during the third day of the illness while his or her fever was still quite high, blood feeds for another seven days would not have spread the disease. The mosquito would have spread the disease from about eight days forward. Three days, plus eight days, plus three to six days before symptoms appeared in the second victim presented an approximately two-week delay from the initial patient to the next (WHO 1986: 8).

The yellow fever mortality rate varied from epidemic to epidemic and from area to area. The lack of prompt recognition of yellow fever was -- and is -- one of the major problems in the

control and prevention of the disease. Yellow fever is still prevalent in the tropical areas of Africa and the Americas where milder cases, especially in the absence of more severe ones, are rarely diagnosed without laboratory confirmation (WHO 1986:42).

Disease Prevention

Currently, the primary means of prevention of mosquito borne diseases are community mosquito abatement programs for pesticide spraying and elimination of standing water, along with individual measures to avoid being bitten. Juxtaposition into 1878 would mean elimination of breeding places as an effective mosquito control measure. They would have covered water pots and removed or emptied unused receptacles around houses, docks, river craft, machinery dumps, cemeteries, and wells. Cisterns or other water storage containers would have been shielded from mosquitoes. A larvacide could have been used in any open water supply not intended for drinking water. Long-term abatement measures could have included residual spraying and screening of houses, other buildings and ships. Personal protection from mosquito bites could have ranged from mosquito netting and protective clothing, especially at the ankles, seat and knees, to the application of temporary repellants such as citronellol, a kind of citrus oil (Christophers 1960:57-59; CDC:West Nile Virus Website 11/9/2004).

Although the connection had not been made between the mosquito and yellow fever in 1878, technology had improved upon the netting used for protection from insects. In early 1878 advertisements began to appear in New Orleans papers introducing “wire screens for windows.” Figure 3.2 is a reproduction of the text of an advertisement that appeared in the Weekly Picayune. (The text was read with the aid of a Promaster Spectrum 7, 8X Magnifying Lupe.)

Wire Screen for Windows, doors, etc. are now being made by Messrs. Heath, Pippey & Lars, Nos. 97 & 99 Camp St. at very much reduced rates. These screens not only keep out flies, bugs and other insects, but also dust, while at the same time allowing a free passage of air. Call and examine them.

Figure 3.2. Text of an advertisement for Wire Screen from the Weekly Picayune July 7, 1878.

Disease Treatment

Yellow fever is not a disease of the past. It is still with us and there is no cure. Yellow fever is one of the diseases regulated by the World Health Organization. Airplanes and ships into and out of infected areas are controlled by regulations designed to prevent or control the spread of diseases, including yellow fever (WHO 1986: 90).

Vaccination is required of travelers from the countries in which yellow fever is prevalent. A routine mass immunization program is used to protect those considered “at risk.” Emergency immunizations are carried out once an outbreak takes place. The vaccine is administered to all within the area -- even those who were vaccinated previously -- to limit the spread of the disease (WHO 1986:65).

Although many more medications are available today to treat the symptoms of yellow fever and doctors today are more knowledgeable about underlying organic stresses, it is enlightening to compare current medical strategies with those of 1878. General treatment of yellow fever, then as now, included complete bed rest and an attempt to relieve the symptoms of fever, aches, nausea, and vomiting. Both medical strategies make note of a short period of remission (several hours), during which treatment continues depending on symptoms present.

However, a major difference is the initial emetic treatment recommended in 1878 that would have greatly exacerbated the progressive dehydration and made survival much more difficult. Although yellow fever can damage other organs, the liver and kidneys are the most severely compromised (WHO 1986:42). Table 3.1 below outlines current medical treatment recommended by the World Health Organization (WHO 1986:Table 6). Treatment available only at a hospital or clinic is noted in italics.

Table 3.1. Therapeutic Measures for the Management of Yellow Fever Cases (WHO 1986:Table 6)

Stage of Illness	Manifestation	WHO Treatment ✓ (Hospital treatment in italics)
Infection	Fever, headache	Paracetamol; sponging with cool water (avoid aspirin because of the bleeding diathesis)
	Vomiting, abdominal pain, hiccups	Metoclopramide (by rectal suppository, if available); give chips of ice to suck
	Dehydration	Oral fluids; salt solution for diarrhoeal diseases or sugared water or citrus fruit juice, 5-10% glucose in saline or Ringer's solution (given IV)
	Restlessness	Diazepam
Intoxication	Same manifestations as for infection stage	See above
	Bleeding	<i>Blood transfusion (estimate blood loss, determine erythrocyte volume fraction, hemoglobin, and arterial pressure); plasma volume substitutes</i>
	Acidosis	<i>7.5% NaHCO₃ (determine arterial blood ?CO₂, total CO₂, and pH)</i>
	Renal failure	<i>Maintain renal blood flow; peritoneal dialysis</i>
	Delirium	<i>Tranquillizers; diazepam</i>
Both*	Shock	<i>IV fluids – blood or plasma; plasma volume substitutes</i>
	Associated infections; Bacterial infections	Broad Spectrum Antibiotic
	Malaria	Synthetic antimalarials; Quinine

✓ Transfer to hospital should be effected with great care, preferably by ambulance or helicopter

* Usually observed during intoxication stage, if present

Varied and exotic treatments have been suggested for yellow fever. However, by 1878 the regimen in general use was one of moderate intervention and careful nursing recommended by the Howard Association (Carrigan 1994:26-328). The treatment recommended by the Howard Association is delineated in Figure 3.3 below, copied from a reprint in the Feliciana Sentinel on September 7, 1878. The column was cropped and the halves were set side by side in order to fit it on a single page.

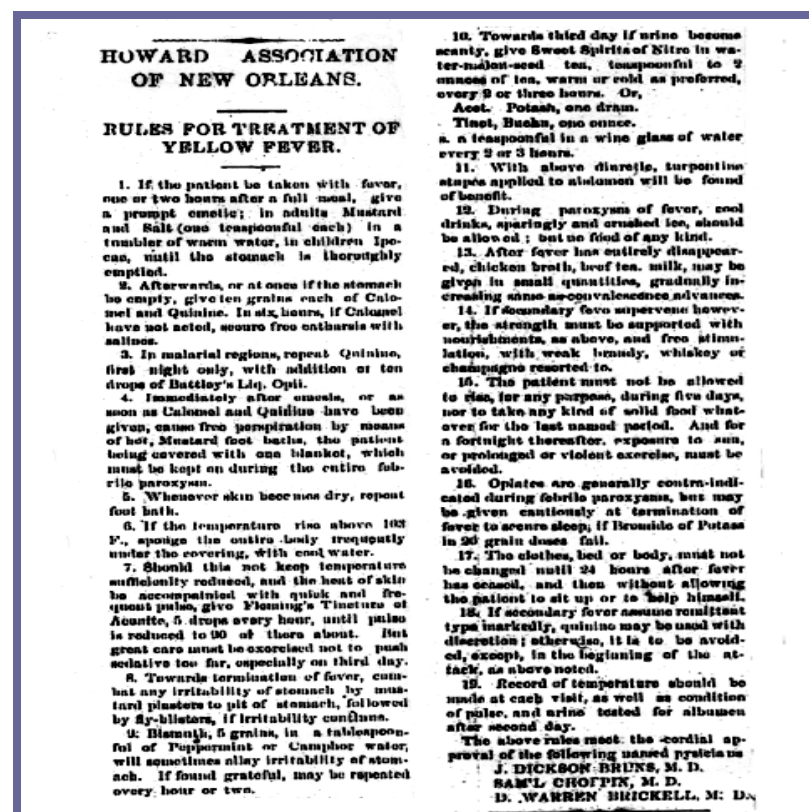


Figure 3.3. Reprint of the Howard Association Rules for the Treatment of Yellow Fever from the Feliciana Sentinel on September 7, 1878.

Then, as now, initial treatment may have included additional medication for malaria. Now, of course, treatment is also provided for other secondary infections. The WHO document cautions that the “transfer to hospital should be affected with great care, preferably by ambulance

or helicopter.” The Howard Association warned that the patient “must not be allowed to rise, for any purpose, during five days,” and “[t]he clothes, bed or body, must not be changed until 24 hours after fever has ceased, and then without allowing the patient to sit up or to help himself.”

Both treatments prohibit solid food until the patient’s temperature is normal. The Howard Association treatment allowed cool drinks “sparingly” and crushed ice. WHO not only recommends oral fluids but IV fluids as well to prevent dehydration. The Howard Association treatment included application of a diuretic “if urine becomes scanty” about the third day of the illness. Current technology provides the added advantage of peritoneal dialysis to prevent renal failure.

CHAPTER 4 BACKGROUND

Setting the Scene

Early settlers of East Feliciana and West Feliciana parishes faced a complex of hardships and disease beyond the physical dangers and stresses common to any American frontier. Historical and medical journals of the eighteenth and nineteenth centuries recorded many serious, often fatal, diseases. There were no preventive inoculations for measles, mumps, and chicken pox, or for the dreaded small pox, diphtheria, polio and tuberculosis. In the subtropical lower Mississippi River Valley were added hookworm, typhus, scarlet fever, yellow fever, malaria, cholera, and a myriad of other ailments identified only as “fevers.” Yellow fever was by far the most feared of those maladies.

Although yellow fever was not endemic to territory now part of the United States, the sickness returned again and again. As each summer approached, so did the dread of yellow fever. During the early 1700s the locus of the disease in Louisiana was confined largely to New Orleans and nearby settlements. As the population increased and consequent trade spread out into the lower Mississippi Valley, so did yellow fever. Many stories have been told of the fearful exodus from towns where a case was known. Local business halted, and trade with the town ceased. Those who were not able to escape were quarantined for extended periods of time and were soon without goods or the funds to purchase them if they had been available. On September 1, 1878, the Memphis Avalanche reported, “One by one those who remain in the city and are liable to the monster malady are taken down....Our streets are deserted, our stores and residences empty....But three weeks have passed since the fever broke out among us, and from six to eight weeks must elapse before relief can be extended and the fever checked by the

appearance of frost” (Bloom 1993:1). The economic consequences of yellow fever were as deadly as the disease (Bloom 1993:136).

Origins of Yellow Fever

It was generally known in 1878 that yellow fever was introduced each year from the Caribbean or the Gulf of Mexico and that Havana was the endemic center of the infection. Later, Dr. Henry Rose Carter of Jackson, Mississippi, determined that the earliest accounts of illnesses identifiable as yellow fever were in the Yucatán in 1648 and Cuba in 1649 (Bloom 1993:10-11).

Epidemics were also reported in the port cities along the east coast of the United States. There were accounts of yellow fever in New York in 1668, in Charleston in 1690, and in Philadelphia from 1690 into the 1790s. The incidences of yellow fever in Philadelphia over such a long period have been attributed to their extensive Central American trade followed by West Indian during that same time period (Carrigan 1994:12).

Many of the sparse reports of yellow fever during the 1700s were suspect because maladies with similar symptoms, like malaria and cholera, also struck in the hot seasons. Accounts of illness resembling yellow fever were reported in Biloxi in 1702 and in Mobile in 1704. As the Caribbean sugar trade expanded, more yellow fever epidemics were recorded. Carter maintained that yellow fever originated in West Africa and came into the Caribbean along with the slave trade (Carrigan 1994:12). By 1700 it had become endemic to that tropical area. Biological studies later confirmed that his analysis was accurate (Bloom 1993:3).

By the mid 1800s, extensive sugar cultivation and a burgeoning slave trade were spreading yellow fever around the world. Accounts of yellow fever were recorded as far away as Lisbon and Seville and the disease had become endemic in Rio (Duffy 1966:7-9).

The first well-documented epidemic in New Orleans was in 1796. By that time there was enough local immunity that the ailment was dubbed “strangers disease” which supports the hypothesis that it had been present for some time (Carrigan 1994:22).

Symptoms

Yellow fever infections did not always follow a consistent pattern. They ranged from extremely mild to fatal. A patient may suffer a few days to a few weeks of flu-like symptoms (probably only identified if there were other cases in the vicinity), to terminal cases exhibiting the classic yellow fever symptoms. In the most severe cases, the abrupt onset of nausea, chills, and fever was followed by congestion and passive hemorrhaging from the eyes, ears, mouth, nose, bladder and uterus. The body became bloated and the skin blotched and jaundiced as the kidneys and liver began to fail. In some cases victims suffered volatile vomiting of partially digested blood that had seeped into the stomach and duodenum – the “black vomit” – a sure sign of imminent death. Irritability and restlessness brought on by the hemorrhaging of blood vessels in the brain became extreme shortly before death, followed by delirium, coma or convulsions (Bloom 1993:5-7; Carrigan 1994:7-8).

Searching for a Cure

Urban yellow fever was transmitted through the A. aegypti mosquito, not directly from person to person. The vector traveled on shipboard, breeding in open casks of drinking water. Human hosts worked on, or booked passage on, these ships as well. To become infective the mosquito must have ingested the blood of a yellow fever victim within three or four days after his or her fever first developed. Ten to twelve days of incubation were required for the virus to develop so that the mosquito became infectious. Only then could the virus be transmitted to a susceptible host. If the timing was wrong, no yellow fever resulted. If the host was immune, no

yellow fever resulted. One very mild infection conferred lifetime immunity. These confusing elements made the search for the cause of yellow fever difficult (Carrigan 1994:5).

Although most physicians of the early 1800s believed that yellow fever was a result of the noxious fumes of filth and decaying matter, there were some who considered the possibility of a vector. In March, 1848, Dr. Josiah C. Nott of Mobile, Alabama, published an article in the New Orleans Medical Journal in which he stated that yellow fever was not necessarily transferred directly from one person to another. The disease could have been transported by a living organism, he insisted (Bloom 1993:54, Carrigan 1994:224-225).

The association between mosquitoes and locale of yellow fever was made but the medical profession did not consider the mosquitoes causative. Many in the general public were aware that there were large numbers of mosquitoes about during epidemic years. On September 17, 1878, an article in the Louisville “Courrier-Journal” referred to a certain “gray-back mosquito,” the presence of which old Mississippi residents said portended an outbreak of yellow fever (Bloom 1993:20). The medical paradigm began to shift toward the germ theory in the mid-1800s; however, references specific to mosquitoes as the vector for yellow fever were not found in any formal medical literature with one notable exception. Dr. Carlos Finlay of Havana, Cuba, read a paper before a session of the Royal Academy of Science in Havana August 11, 1881, in which he proposed his theory of the propagation of yellow fever by that very gray-backed mosquito (Bloom 1993:20). Dr. Finlay drew upon the studies of Baron Alexander Humboldt, the father of modern geography, for his habitat analysis. In 1886, Dr. Finlay’s “Yellow Fever: Its Transmission by Means of the Culex Mosquito,” appeared in the American Journal of the Medical Sciences.

Unfortunately, Dr. Finlay was never able to prove his theory experimentally. William Crawford Gorgas, United States Surgeon General, met Dr. Finlay in 1898 in Havana and was a friend and colleague for some years. He explained Dr. Finlay's inability to successfully transmit the disease experimentally this way. "Because he had no way of knowing that a female A. aegypti was not infectious for 12 days after she swallowed the blood of a yellow fever patient, he quite naturally used his mosquitoes on his experimental cases well before 12 days had lapsed" (Gorgas 1918:14).

Ultimately, Dr. Walter Reed and the other members of the U.S. Army Yellow Fever Commission in Havana in 1900, confirmed that the gray-backed female A. aegypti mosquito was the vector for yellow fever, as Dr. Finlay had insisted for twenty years. During the early days of the commission, while they pursued other nonproductive avenues, Dr. Reed discussed Dr. Finlay's theory with him at length. When Dr. Reed decided to test the mosquito theory, he had an advantage that Finlay had not. Dr. Reed had read a paper recently published by the same Dr. Henry Rose Carter mentioned earlier (Gorgas 1918:10).

Dr. Carter, who was with the Public Health Service, had made what Dr. Gorgas called his "epoch-marking observations upon the extrinsic incubation of yellow fever" (Gorgas 1918:10). He, like some other doctors, had noticed a time lag of from two to three weeks between the first yellow fever case in a community and the secondary cases. Dr. Carter had been observing this phenomenon since 1887 and had an opportunity during the 1898 epidemic in the Mississippi farm communities of Taylor and Orwood to chronicle the contacts of the various households and later developments of yellow fever. Those who visited the house of a yellow fever patient soon after he became ill were not infected. Those who visited about a week later were not so fortunate (Gorgas 1918:11).


CHAPTER 5 IN THE FELICIANAS

In 1878 the primary means of commercial and social transport in the Felicianas was by river into Bayou Sara, and Port Hudson or Port Hickey. Connections by rail extended from Bayou Sara to Woodville, Mississippi and from Port Hudson to Clinton, Louisiana. Connections to and from any interior plantations, farms or population centers not on the railway line would have been overland by horse and wagon.

The Port Hudson landing was reported unsafe for the mooring of larger steamboats in 1877. An article titled “The Rail Road to Baton Rouge” in The Patriot-Democrat on July 7, 1877, read “we can depend upon only a tri-weekly intercourse with New Orleans, while the great Western markets are almost entirely closed against us, on account of the extreme reluctance with which the larger steamers consent to attempt the dangerous landing at Port Hudson. As matters now stand there is only one day in the week, on which a citizen of our town can start for New Orleans with any certainty of being able to reach that city within twenty-four hours. This of itself is bad enough, but to complete our misfortunes, the recent formation of that tremendous [sand] bar, immediately in front of Port Hudson, renders a speedy change of the river terminus, or a total abandonment of the road, an absolute necessity.”

The August 11, 1877, issue of The East Feliciana Patriot-Democrat printed the resolution of the Board of Directors of the Clinton and Port Hudson Railroad to move the river terminus from Port Hudson to Port Hickey temporarily. For a time Port Hickey was used as the way landing for larger vessels and merchandise was transferred by wagon to the Port Hudson railway terminus.

On August 29, 1878, the East Feliciana Patriot-Democrat carried an advertisement for “Campbell and Slaughter, Receiving, Forwarding and Commission Merchants” that specifically noted the transfer of goods from Port Hickey to the Port Hudson rail terminus. See Figure 5.1 below.



J. A. Campbell (Ag't) W. S. Slaughter, Jr.
CAMPBELL & SLAUGHTER
RECEIVING, FORWARDING
—and—
COMMISSION MERCHANTS
PORT HICKEY
 (Between Port Hudson and Fontana)

We give particular attention to the Receiving and Forwarding business and as we have as good a landing as there is on the Mississippi River for this business, steamboats of any size will land here with freight or passengers. A good hack runs from this point to the Clinton and Port Hudson Railroad.

We keep constantly on hand a full supply of
WESTERN PRODUCE
 and Family Groceries, such as—

Pork	Flour,	Molasses
Corn	Corn Meal	Candles
Oats	Sugar	Soap
Hay	Coffee	Tobacco

and a variety of groceries which we will sell at low market prices and in quantities to suit customers.

We will purchase Cotton, Corn, Wool, Hides, Moss, Old Iron, Brass, Copper, Rags, or anything that is merchandisable.

We will also make liberal cash advances on consignments to our friends in New Orleans and St. Louis.

JAS. A. CAMPBELL (Ag't)
 W. S. SLAUGHTER, JR.

Figure 5.1. A copy of the Campbell and Slaughter advertisement noting the transfer of goods from Port Hickey to the Port Hudson railroad terminus. Because the article is extremely difficult to read, the text is repeated for the reader.

In 1878 larger vessels appeared to dock at Bayou Sara and Port Hickey. Other vessels, like the Gov. Allen, docked at Bayou Sara and Port Hudson to deliver mail and goods.

Bayou Sara boasted two steamboat agents in 1878. R. W. Whiteman was the agent for larger steamboats that cycled between New Orleans and Vicksburg. In the Feliciana Sentinel on August 17, 1878, Whiteman advertised the schedule of cargo and passengers for the United States Mail & Passenger Packet, Robert E. Lee, traveling between Vicksburg and New Orleans. The schedule indicated she left Bayou Sara on her upward trip every Wednesday and on her return, left Bayou Sara every Sunday at 7 P.M., reaching New Orleans before dark.

In the same issue, Agent John F. Irvine of the New Orleans and Bayou Sara Steamboat Company advertised that the U. S. Mail Packet, Gov. Allen would leave Bayou Sara for New Orleans every Wednesday after the arrival of the railroad cars from Woodville and every Saturday at 7 P. M. Returning, she would leave New Orleans every Monday and Friday at 5 P. M. Another steamer, the Ouachita Belle, would leave Bayou Sara every Monday after the arrival of the cars from Woodville, and every Thursday at 7 P. M. On her return, she would leave New Orleans every Wednesday and Saturday at 5 P. M.

Steamboats between St. Louis or Cincinnati and New Orleans would have stopped at Bayou Sara and Port Hickey as well. The New Orleans Anchor Line of packets was incorporated at St. Louis in June of 1878. A June 6, 1878 article in the New Orleans Price Current, Commercial Intelligence & Shipping List indicated that the boats entering the line initially were the John A. Scudder, James Howard, Gold Dust, Commonwealth and City of Alton. Advertisements for all of these vessels recorded stops in the Felicianas. On July 24, 1878, the “Marine News” of the New Orleans Price Current, Commercial Intelligence & Shipping List, reported the John A. Scudder left New

Orleans, final destination St. Louis, with produce from Havana, Louisiana and Liverpool and the steamer New Mary Houston left for Cincinnati with stops all along the way, carrying cotton, sugar, coffee, salt and rags.

Mail delivered to the Port Hudson landing was transported to the Clinton and Jackson post offices by way of the Clinton and Port Hudson Railroad. The villages of Bayou Sara and St. Francisville, essentially the same town, shared a post office. In 1878 the post office was located at St. Francisville, the parish seat (U.S. Post Office Records).

There was a lively trade into and out of these parishes. The New Orleans Price Current, Commercial Intelligence & Shipping List, dated August 28, 1878, included the following entry for August 24th reported under "Receipts of Produce by Steamboat."

Ouachita Belle, Libano, from Bayou Sara, with 10 bales cotton (new) J. L. Harris & Co., 8 Meyer Weiss & Co., 3 (1 new), to H. Heyman, 2 (new) Bush & Levert, 1 bale new cotton Renshaw, Cammack & Co., sundries to order.

The Ouachita Belle cycled between Bayou Sara and New Orleans and Port Hudson was a regular stop. Libano was the Captain. The companies named receiving the cotton bales were cotton factors located in New Orleans. "Sundries to order" was the notation used for material requested for shipment back up river from New Orleans. Merchandise moved into and out of the Felicianas from Cincinnati, St. Louis, Memphis, Vicksburg and New Orleans. Purchases and sales in the Felicianas were made both up and down river.

Until 1878 the epidemic of 1853 was the last major one in the Felicianas, yet the residents seemed to be always mindful of the threat of yellow fever. Newspapers contained advertisements promising amazing cures and preventives (Price-Current July 6, 1878), and articles extolling the healthful conditions of their towns (Price-Current August

1, 1878). The Iberville South carried an article on September 28, 1878 entitled “Bayou Sara Fumigated” in which it was declared that all miasma was destroyed every evening about 6 o’clock when Bayou Sara was “lighted up with tar and pine torches, the smoke from which permeates all the houses.” Journals and letters recorded their dread of another epidemic. (See Figure 5.2.)

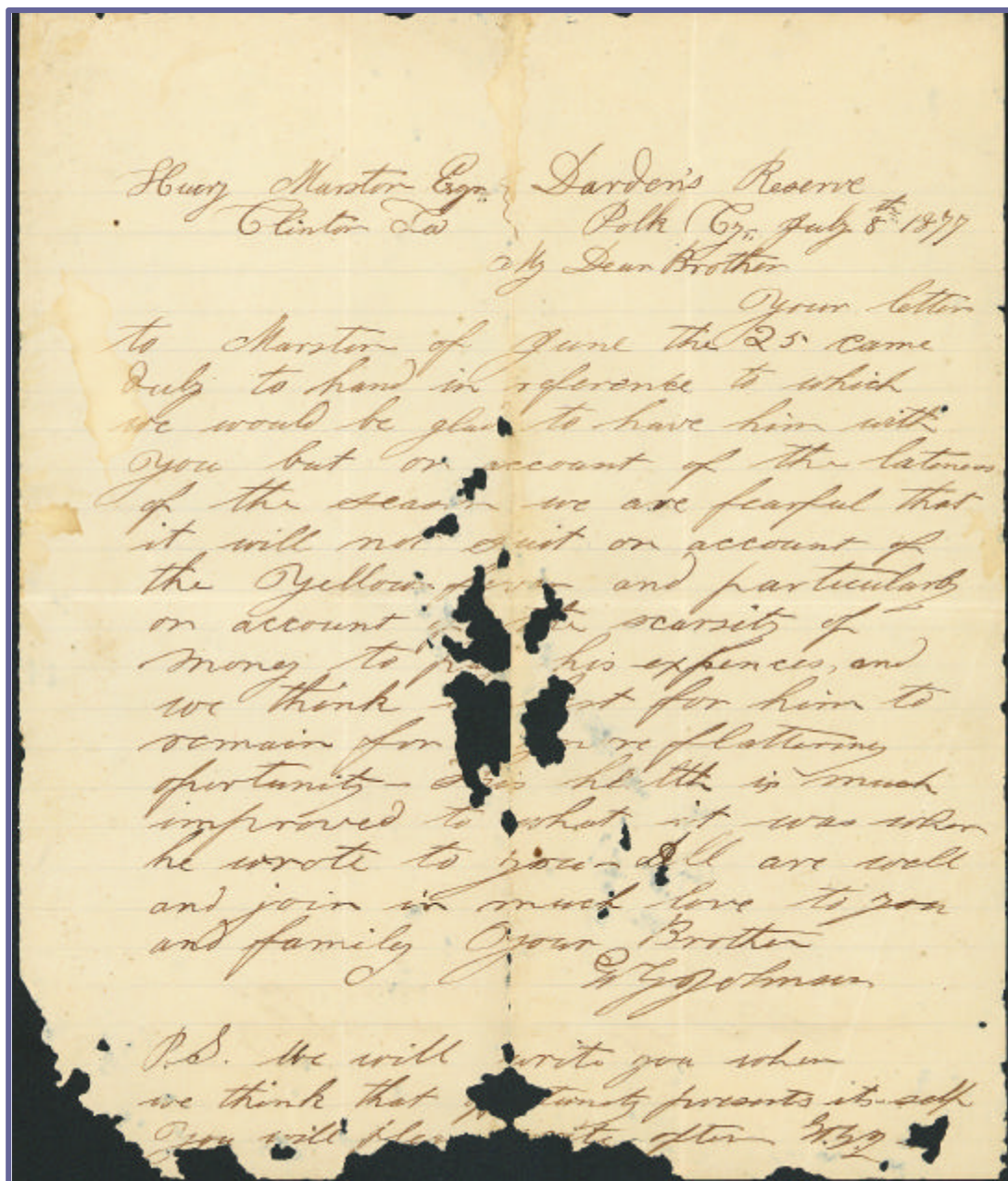


Figure 5.2. Letter written to Henry Marston on July 8, 1877 from “Marston Papers,” Hill Memorial Library Collection.

On March 15, 1855, the Louisiana legislature had provided \$50,000 for the establishment of three quarantine stations on the Mississippi River not more than 75 miles below the city of New Orleans, on the Atchafalaya River at a site two miles below Pilot's Station on Max Bayou, and on the Rigolets (Fortier 1909:2:333). The same act created a State Board of Health to supervise quarantine measures with a physician assigned to each station. The physicians were granted by this legislation the specific authority to detain infected vessels for at least 10 days, remove the sick to hospitals, and cleanse and fumigate the vessels (Fortier 1909:2:333). On March 3, 1857, Congress appropriated \$50,000 to build suitable structures at each of the three quarantine stations with the stipulation that the state cede the necessary grounds to the United States (Fortier 1909:2:333).

On March 18, 1857, the Louisiana legislature passed an act to authorize fees for the health certificates issued by resident physicians to ship masters. In February of 1858 the legislature ceded the grounds for the quarantine stations to the United States and exempted these grants from taxation. The structures erected at each station included quarantine headquarters, a money order postal station, telegraph office and several dwellings (Fortier 1909:2:333-334).

Yellow fever had receded since the epidemic of 1853 and had been nonexistent during the Civil War. The mild epidemics in 1867 and 1874 had very little impact in the Felicianas.

In 1878 Reconstruction had ended and all of Louisiana was involved in the establishment of a new constitution and a petition to move the state capital from New Orleans to Baton Rouge. Railroads were beginning to make commercial inroads into the

interior and towns and villages were vying for the connections that would ensure their prosperity. Commercial contact overland between Baton Rouge and Clinton was increasing and in 1878 plans were progressing for a connection between the two by rail (Patriot-Democrat July 28, 1878).

CHAPTER 6

YELLOW JACK ANNOUNCED


The May 8, 1878 issue of the New Orleans Price Current, Commercial Intelligence and Shipping List recorded Governor Elliott's proclamation that "all vessels arriving after the 14th inst. from the following ports shall be subject to a quarantine of 10 days. The ports named are: all West India ports; all ports along the Gulf of Mexico south of Texas, except the Bay Islands, Roatan, Utila, and Coranna; all ports on the mainland bordering on the Caribbean Sea; all ports along the Atlantic coast of South America as far as the City of Buenos Ayres."

On May 25, 1878 the following marine news item appeared:

ARRIVALS -- May 22, 1878:
Steamship Emily B. Souder, from Havana, was released from
quarantine and allowed to enter the port of New Orleans.
(New Orleans Price-Current 6)

According to conventional wisdom, the yellow fever epidemic of 1878 began that day with two infected crewmembers aboard the Emily B. Souder. People in New Orleans, as well as those upriver, were not aware of the circumstances surrounding the Emily B. Souder until much later. The conflict that ensued between the Master of the vessel and the New Orleans Board of Health was eventually reported, along with the resulting compromise.

The Emily B. Souder was one of three Cuban steamers that cycled from Havana and back each week during the summer season. The New Orleans agent, Edward Hernandez, testified at the January 3, 1879, session of the Yellow Fever Commission that the cargo was principally sugar, sometimes fruit and cigars ("The Yellow Fever Commission Third Day's Session" 7). The following advertisement appeared in the Daily Picayune in May, June and July of 1878 (Figure 6.1).



FOR KEY WEST AND HAVANA
United States Mail Line – Leaving Every Wed.

The first-class steamship
EMILY B SOUDER
S. E. Foote, Commander

Will leave from her wharf, foot Calliope Street on
MONDAY, JULY 22, 8 P.M.
Through bills of lading issued to all points on
lines of railroads to Florida, Tampa, Manatee,
and Key West; also New York, Savannah
and Charleston.

Superior passenger accommodations and
through tickets given to above points. Also ex-
cursion tickets.

No freight received without permit from the office.
For freight or passage apply to:
L. K. Roberts, 120 Common St.
Over Louisiana National Bank

Figure 6.1. Advertisement for the Emily B. Souder, from the Daily Picayune, Volume XLII, No. 110, Page 7, July 21, 1878.

The master of the Emily B. Souder refused to comply with the quarantine, complaining that his cargo of fruit would be delivered rotten if they were detained. P. S. Carrington, Resident Physician at the Rigolets Quarantine Station, after a delay of about six hours during which the vessel was fumigated, relented and let the Emily B. Souder enter the City (Daily Picayune June 5, 1878). An investigation ensued and the Board of Health, after due consideration of the perceived danger balanced against the possible loss of trade, offered a compromise. The Board issued the proclamation that all vessels touching infected ports would be detained for fumigation, but the importers could transfer perishable fruit to a wharf boat and take it into the city immediately (Daily Picayune June 5, 1878).

Testimony during the Yellow Fever Commission hearings in January of 1879 established that the earliest cases were John G. Clark, purser on the Emily B. Souder, on May 23 and Assistant Engineer Elliot on May 24 or 25 (New Orleans Times January 3, 1879).

Consideration of possible initial exposure to the Felicianas is revealed through examination of the river traffic (See Table 6.1).

Table 6.1. Possible Effective Arrivals at the Port of New Orleans, from the May 28, 1878 and June 1, 1878 issues of the Price Current

Vessel	Point of Departure	Date Docked
Gov. Allen	Bayou Sara	23 May 1878
Natchez	Vicksburg	24 May 1878
Ouachita Belle	Bayou Sara	24 May 1878
Robert E. Lee	Vicksburg	26 May 1878
Gov. Allen	Bayou Sara	26 May 1878
Ouachita Belle	Bayou Sara	28 May 1878
Gov. Allen	Bayou Sara	30 May 1878
Natchez	Vicksburg	31 May 1878
Ouachita Belle	Bayou Sara	31 May 1878

The Emily B. Souder departed for Key West on May 31, 1878 with a cargo of sugar, fertilizers, coffee, rice, pork, bacon, hams, crackers, meal, grits, oats, bran, corn, whiskey and lard (New Orleans Price-Current June 1, 1878). Key West reported five cases of yellow fever as of July 10 (Daily Picayune July 12, 1878).

In most of the locations visited by Yellow Jack, cases were not accurately diagnosed during the initial several weeks of infection. Physicians were reluctant to make the pronouncement of yellow fever. Diagnosis was very difficult during the first stages of the disease because chills and fever, the initial symptoms, were common to a variety of ailments and other symptoms varied with the severity of each case. With no knowledge of other cases in the area, denial was the natural response to the possibility of such a dreaded disease. Assuming this pattern at Key West, five cases were reported after some doubtful ones had been confirmed and denial was no longer possible. Also, the report read “five cases *as of* July 10” rather than “five cases *on* July 10,” which means that the decision to make an official notification was made only after five cases had been confirmed and reported.

The Emily B. Souder was not the only vessel to arrive in May at the quarantine station with infection aboard. The Borussia, traveling between Liverpool and New Orleans, stopped at Havana and took on board 1000 cases of sugar. She arrived at quarantine on May 17 with five cases of yellow fever. According to the testimony of Silas Weeks, agent of the Mississippi and Dominion Steamship Line, two of the patients were passengers and three were members of the crew. Three of the people died, he said, and the other two were taken into the city when they were well. The steamer arrived at port on June 2 (New Orleans Times January 4, 1879). Dr. Luke P. Blackburn, a seasoned yellow fever physician, was convinced that the fever came aboard the Borussia (New Orleans Times January 5, 1879). He -- and those who trace the infection to the Emily B. Souder -- may be correct. There were multiple introductions of infection.

The yellow fever commission determined that the next fatalities, on June 15, were Mr. Cavis, an engineer on the steam tug Charley Wood, and his neighbor's daughter. His mother-in-law died on June 20. Another, and then another, neighbor in the Terpsichore and Constance

Streets area were taken ill. The Emily B. Souder and the Charles W. Lord continued to cycle through New Orleans from Havana. Ship and passengers remained at quarantine. Perishable cargo was transported into the city (New Orleans Times January 6, 1879).

Editorial “Items of Interest,” a regular feature of the Price-Current, reported tidbits of news, rumors and gossip. On July 13, 1878 the following notice appeared.

A few days since the Mayor of Shreveport sent a telegraphic enquiry to the Board of Health in this city stating that a rumor had been started in Shreveport that yellow fever had appeared here. An answer stating that the rumor had no foundation, there not being the slightest sign of the fever, was promptly telegraphed to the Mayor of Shreveport.

On July 17, the Price Current printed a dispatch from New York dated July 14 reporting eight yellow fever patients in the quarantine hospital at that port. Four patients had been taken from the steamer Niagara out of Havana several days before, but one of the four had died July 13.

On July 14 in New Orleans, the first case of yellow fever was reported to the New Orleans Board of Health, that of Martin Brady, an unemployed steamboat mate. Mr. Brady died on July 21. A Mrs. Chaffe, who lived on the corner of General Taylor Street and St. Charles Avenue, took ill on July 17. The Yellow Fever Commission the following January postulated that the infection was transported through a seamstress who lived in the Constance and Terpsichore Streets area (New Orleans Times January 7, 1879). One of the families in Mrs. Chaffee’s neighborhood fled to Canton, Mississippi. On Sunday, July 21, 1878 the New Orleans Daily Picayune reported 14 cases of yellow fever in New Orleans with seven fatalities and requested an official announcement from the Board of Health. Yellow fever was reported in Canton the following week.

On July 19, the New Orleans and Bayou Sara Steamboat Line ran advertisements in the Daily Picayune indicating a continued regular schedule. The Ouachita Belle would stop at Waterloo, Hermitage, Port Hickey, Lobdell's Store, Baton Rouge, Plaquemine and the usual way landings between Bayou Sara and New Orleans. Regular stops recorded for the Gov. Allen were Bayou Sara, Waterloo, Hermitage, Port Hudson, Lobdell's Store, Baton Rouge, Plaquemine and post office landings. The steamboats registered, in addition to their regular stops, "various way stations." This notation referred to many small towns and hundreds of wood yard, ferry and plantation landings at which the steamboats would stop "on hail." In 1881 a published list of landings in the 135 miles between New Orleans and Baton Rouge numbered 1,025 (Hunter 1993:346).

On Monday, July 20, 1878 the Emily B. Souder and the Charles W. Lord arrived from Havana. The Emily B. Souder carried sugar, cigars and \$1,000 in specie [coins]. The cargo on the Charles W. Lord was sugar and bales of tobacco. The vessels were cleared two days later, on July 22, 1878, and departed for Key West the same day. The bill of lading for the Emily B. Souder recorded a cargo of flour, corn, oats, hams, grease, potatoes, meal, sugar and 21 packages of miscellaneous merchandise. The Charles W. Lord carried flour, potatoes, meal, corn, bran, oats and hams (Price-Current July 24, 1878).

On Wednesday, July 24, 1878 Dr. Samuel Choppin, President of the New Orleans Board of Health, reported the presence of yellow fever to Dr. J. M. Woodworth, Surgeon General of the Marine Hospital Service, Washington, D.C. Cases with suspicious symptoms began to occur, he said, about July 12 (Price-Current July 24, 1878). That date was, however, as was later determined, about seven weeks after the initial introduction of the infection. On July 24, the

Price-Current reported the total number of deaths in New Orleans for the week ending July 21, at 111, “70 white and 41 colored.”

On July 19, William Perry O’Bannon died of yellow fever in St. Louis, Missouri. The St. Louis Globe-Democrat reported that he had served as second clerk on the steamer Commonwealth from St. Louis to New Orleans and back. While in New Orleans he had gone on board a vessel “from the south seas” that had been infected (Daily Picayune July 24, 1878).

On July 24, the steamboat John Porter and barges passed Vicksburg moving up river from New Orleans to Pittsburgh. Reports spread at the time indicated that part of the crew was dead and the rest deserted the vessel at Arkansas City. Three members of the crew had died. The City Physician at Vicksburg reported that two cases of fever were put off a passing towboat from New Orleans on July 25. One of the fever patients died at the Marine Hospital during the night and the other died the evening of July 25 and was buried on July 26. A third patient who had the fever when the boat passed Vicksburg died on board the morning of the July 25 and the boat returned to have him buried. The vessel was disinfected upon its return and then it continued up river (Price-Current July 27, 1878. When the vessel reached Memphis, the Captain reported that the three firemen had died as a result of “too free use of ice water while overheated.” The John Porter took on a supply of ice and provisions and proceeded up river (Daily Picayune July 30, 1878).

The yellow fever epidemic did not spread evenly from one, or even from several, centers of infection. Infected areas were not contiguous. This was particularly evident in the first several reports of the presence of yellow fever in 1878. The infection first appeared in various locations at some distance from each other. The first cases reported were at Key West, but cases were recorded at New Orleans and New York on the same day, although it was later determined

that there must have been unreported cases in New Orleans prior to July 14, 1878. St. Louis reported the presence of yellow fever before Vicksburg. The infection followed the direction of commercial activity from location to location along with travelers and trade. Figure 6.2 shows this connection visually.

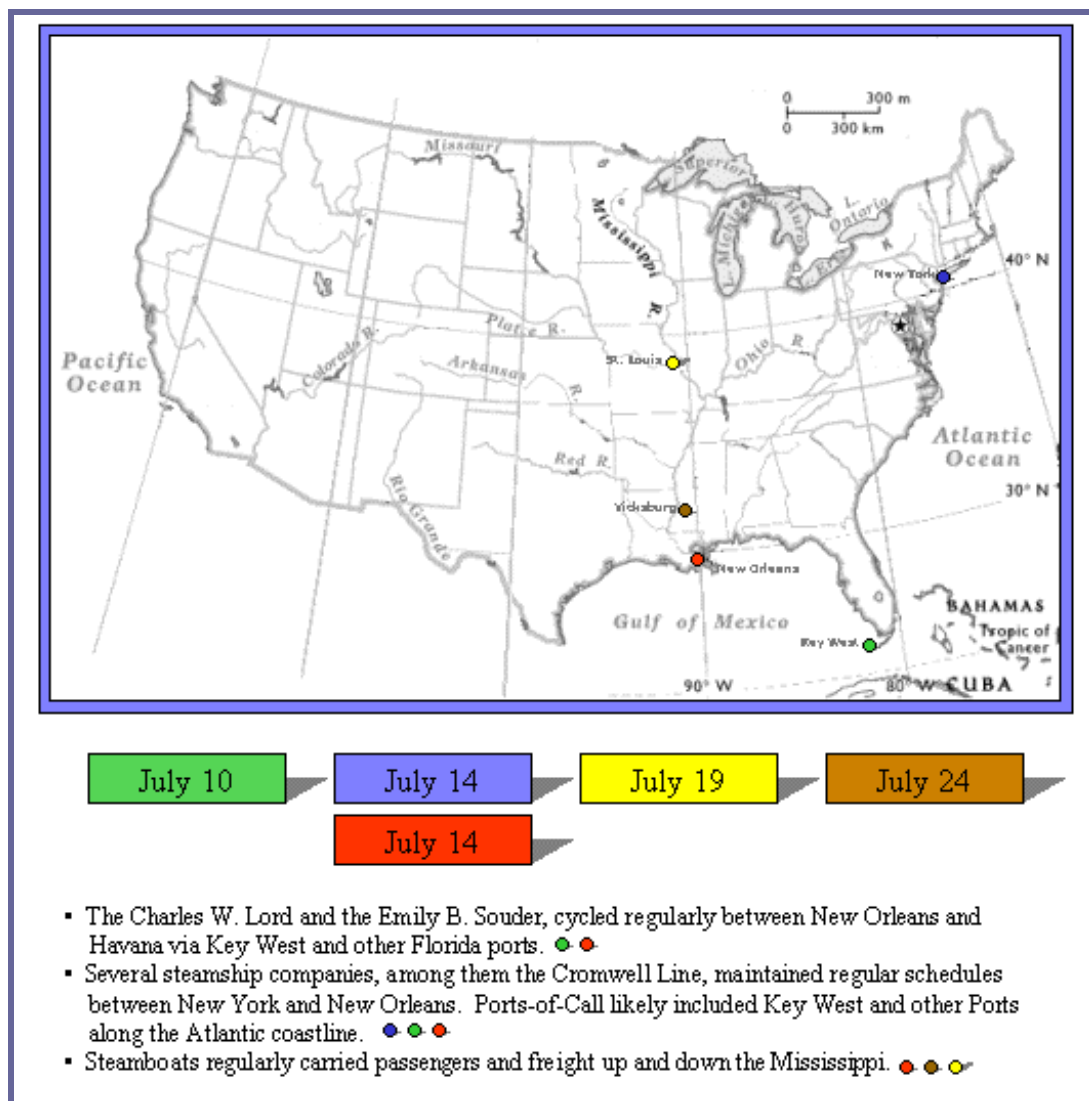


Figure 6.2. Locations of Early Reported Yellow Fever Deaths in 1878 Shown on a Copyrighted 1998 National Geographic Map of the Continental United States Adapted for Historical Accuracy. Reprinted with the permission of the National Geographic Society.

CHAPTER 7

THE SCOURGE APPROACHES

Toward the end of July 1878, the people of East and West Feliciana began to take particular interest in daily dispatches from New Orleans. On July 29 the Price Current reported yellow fever cases in Donaldsonville. By the next day, dispatches added Vicksburg, Natchez and Bayou Sara to the rapidly growing list of infected ports New Orleans (Daily Picayune 6). Each of the two parishes had a weekly newspaper, published every Saturday. The weekly Feliciana Sentinel was published in St. Francisville, West Feliciana Parish and the East Feliciana Patriot-Democrat was published in Clinton. In addition to the political and social news of the day, they carried news of the spread of yellow fever, usually in the form of reprints from city dailies or from neighboring weeklies. They published anecdotes about sufferers past and present and advice for prevention and treatment. Articles outlining how their villages were meeting the challenge of this epidemic were also regular features.

The residents of the Felicianas did not depend on their respective weeklies for all of their information. They received verbal and written information from various sources. Dispatches were brought in from New Orleans by steamboat and posted in each town. Information was also introduced from riverboat and railroad workers and travelers. They also often subscribed to one or more daily newspapers and shared that information as well. Mr. Henry Marston of Clinton, for instance, regularly read papers from New York, New Orleans, Cleveland, and Boston (Marston Journal July 23, 1878).

In mid July, after the official notification of yellow fever in New Orleans, many of the people of the Felicianas began to think about where they might go to escape the fever.

Newspaper articles began to appear extolling the beauty and safety of the mountains of Tennessee, Virginia, and the Carolinas.

On July 31, 1878, the Price Current reported that quarantines had been established at Shreveport, Mobile, Galveston, Memphis, Cairo, Pensacola, Franklin, Port Gibson, Rodney and Natchez. In 1878 quarantines were often initially established against persons from infected districts and certain freight, such as woolens, bagging, and goods shipped in sacks. The quarantines then escalated until many locations were completely isolated, prohibiting even first class mail (Carrigan 1994:113-129). By August 24, 1878, the town of Clinton was among those refusing to receive mail matter of any class (Council Minutes of the Board of Aldermen).

CHAPTER 8

THE PESTILENCE CONTINUES

Dr. J. D. Dromgoole of Louisville, Kentucky, collected a record of yellow fever in the lower Mississippi Valley with the title Yellow Fever Heroes, Honors & Horrors in 1878 (1879). In each town or village the number of yellow fever cases and deaths and activities of the Howard Association were reported through the local post offices. The same notations are recorded in John McLeod Keating's A History of Yellow Fever (1879). Records of yellow fever in 1878 were also found through newspaper articles, obituaries and interments. Bits of information were sought through personal contact with living members of families affected, as well as family journals, police jury minutes, board of aldermen minutes, assessor surveys and histories. Each bit of information used in this study was to be verified by a minimum of one unrelated cross-reference.

West Feliciana

Very little information was made available in West Feliciana. No 1870 or 1880 census records, no 1878 police jury minutes, council minutes, assessor's maps and reports, or mortality records could be located. The information gathered came from extant issues of the local weekly newspaper, the Feliciana Sentinel, newspapers from other locations, Grace Episcopal Church records, the Howard Association reports and the Keating and Dromgoole texts.

Ten deaths were confirmed in West Feliciana from May 1, 1878, to December 31, 1878. Cause of death could not be verified for eight. Two were documented as yellow fever fatalities. A notation in the Feliciana Sentinel indicated that five had died of yellow fever at the Acklin Plantations near Angola, but the location of these plantations could not be confirmed, nor could

the deceased be identified. No burials could be confirmed in West Feliciana for the same time frame in 1880. (See Table 8.1.)

Table 8.1. 1878 Confirmed Mortality Records for West Feliciana Parish

		Date of Death	Yellow Fever?	Single Source Documentation
Haralson	James Surget	78/07/08		Feliciana Sentinel Obituary, July 13, 1878
Magfarl,	George Henry	78/08/04		Feliciana Sentinel Obituary, August 10, 1878
Bell	William L	78/08/13		Feliciana Sentinel Obituary, August 17, 1878
Riley	Israel	78/08/21		Feliciana Sentinel Obituary, August 24, 1878
Mumford	Robinson	78/09/11		Grace Episcopal Funeral Records, 1878
Wright	Robert	78/10/11	Y	Feliciana Sentinel Obituary, October 19, 1878
Heath	Dr. John F	78/10/24	Y	Feliciana Sentinel Obituary, October 26, 1878
Barrow	William	78/10/30		Grace Episcopal Funeral Records, 1878
Parkerson	William	78/10/31		Grace Episcopal Funeral Records, 1878
Newman	Mrs. Delphine	78/11/14		Grace Episcopal Funeral Records, 1878

According to newspaper notices in the Price Current and the Weekly Picayune, yellow fever first appeared in Bayou Sara on July 30, 1878. Dromgoole's and Keating's reports set September 20 as the date of the first case of yellow fever.

J. F. Irvine, Mayor of Bayou Sara, issued a quarantine proclamation against all infected districts on August 1, 1878. The notice appeared in the Feliciana Sentinel on August 3, 1878. (See Figure 8.1.)

As part of their quarantine program, Bayou Sara placed a marine lighter, or wharf boat, on the river into which freight was transferred from steamboats for delivery into the town ("Council Proceedings" August 3, 1878). Coal or tar fires were burned every day at about 6 pm ("A Just Tribute" September 28, 1878). All males between the ages of 15 and 45 were pressed into picket duty (Feliciana Sentinel August 3, 1878). See Figure 8.1.

St. Francisville was included in the Bayou Sara quarantine at a meeting of the West Feliciana Police Jury authorizing the Corporation of Bayou Sara to extend their quarantine

regulations “from Woodruff’s Ditch to Fancy Point and over all roads leading to and from the towns of St. Francisville and Bayou Sara” (Feliciana Sentinel August 10, 1878). A week later the paper printed a denial of the presence of two cases of yellow fever in Bayou Sara with the added notation that the Sentinel would not deceive the people “you may rest assured.”



Figure 8.1. Bayou Sara Quarantine Proclamation, from the Feliciana Sentinel, August 3, 1878

On August 24, 1878, a notice appeared in the Sentinel declaring that both Jackson and Clinton, Louisiana had quarantined against Bayou Sara and a short article indicated that the Mayor of Woodville, Mississippi had issued a proclamation declaring that the hands on the West Feliciana Railroad were not allowed to enter the town, “as the Board of Health adjudged them to be liable to the fever after handling infected goods.” A Woodville Republican article on the same day read, “Woodville has escaped thus far the yellow fever. Mayor Noland will give notice should a case occur.”

By the end of August Bayou Sara and St. Francisville were again denying the presence of yellow fever. On August 31, the Feliciana Sentinel ran a clip that read, “There are false rumors prevailing as to the existence of fever in our two towns. They are without foundation and should the fever make its appearance we would report the fact promptly.” The same issue carried a notice that the Ouachita Belle’s schedule was reduced to one round trip to New Orleans per week.

The residents of Woodville, Mississippi, continued to register concern. On September 7, 1878, an article appeared in the Woodville Republican that read, “Mr. Martin Hines and his son took suddenly sick with fever of a very severe type. Of course Mr. Hines being an employee of the railroad, it was looked on with suspicion.” On September 14 the West Feliciana Railroad president, J. Burruss, issued a notice in the Feliciana Sentinel that the train would not run until further notice.

The Bayou Sara City Council and Sanitary Committee published an abstract of their proceedings in late September in which thanks were offered to the president of the Grand Lake Coal Company in Pittsburgh for a donation of two hundred boxes of stone coal to be used in fumigating the town. As a result of the quarantine, the burning of fires of tar, coal and wood,

and divine intervention, their article concluded, “our town and parish have thus far escaped the yellow fever, which is so sorely afflicting so many of our fellow citizens” (Feliciana Sentinel September 21, 1878).

Also in the September 21 issue, an article titled “Distressing Fatality” described in great detail the sicknesses and fatalities of the Swire family, “residing in Pointe Coupee, directly opposite Bayou Sara.” The eldest son, who was attended by Dr. Claiborne of Pointe Coupee and Dr. Ball of Bayou Sara, died September 3, 1878. Two other Swire children, Lavinia and Harry, died September 18. William, the infant son of “Mr. James of New Orleans, residing in the same house,” also died September 18. Cause of death was declared to be “pernicious or river fever.”

The Sanitary Committee of Bayou Sara, the article continued, took actions to provide “ice, medicines and other necessities to the other side,” consistent with the public safety. Walter Swire was buried in Erwinville in West Baton Rouge Parish. Lavinia and Harry Swire were buried in Pointe Coupee Parish. William James was buried in Pointe Coupee Parish. However, funeral services for all four were held at Grace Episcopal Church in St. Francisville (Grace Funeral Records 1878).

Yellow fever was reported at Tunica and Row Landing in late September. The clip in the October 12 issue of the Feliciana Sentinel also reported that five had died at the Acklin plantations near Angola, but no names were listed. The article also reported the presence of yellow fever near Clinton on Plank Road. Readers were assured that “every exertion is being made to prevent its communicating with this town.” No maps could be located showing the location of the Acklin plantations and current local residents were unable to help. The exact location remains unknown.

On October 11, a quarantine was officially established against “all persons, cotton, produce and all articles of commerce and trade coming from [sic] the parish of East Feliciana.” The barrier established was Thompson’s Creek, which forms the eastern boundary of the parish. The quarantine allowed for delivery of ice, medicines, and other articles needed for the sick. A carrier could go to the picket posts on Alexander Creek to leave orders to be sent to town and their merchandise would be delivered to Thompson’s Creek. The proclamation also quarantined Bayou Sara and St. Francisville against all persons and articles from the Acklin plantations and the Tunica Settlement. The proclamation was published in the October 19 issue of the Feliciana Sentinel. An obituary also appeared for Robert Wright, a native of Virginia, aged 33, who died “at the Angola plantation.”

The West Feliciana newspaper carried a lengthy obituary for Dr. John T. Heath, aged 24, on October 26, 1878. Dr. Heath died of yellow fever at the home of Mrs. Row near Tunica on October 17. He had contracted the disease, the article read, while treating the sick at the Acklin plantations. An extensive attempt to locate interments or obituaries in the area was unsuccessful.

The tiny tantalizing clues uncovered suggests that there was at least one case of yellow fever in Bayou Sara in late July or early August, reported by the Price Current, followed by two in late August, vociferously denied in the local paper (Feliciana Sentinel), and then the Swires and young William James took ill in September, hence the Keating report of yellow fever around September 20, 1878. The remaining illusive cases of yellow fever in West Feliciana were up river around Angola, Tunica and Row Landing. However, irrefutable evidence for this scenario has not been found.

On November 2, a notice in the Feliciana Sentinel reported that the West Feliciana Railroad would run regularly on Mondays, Wednesdays and Saturdays. Bayou Sara raised her quarantine “in every direction.” The wharf boat was removed from service.

CHAPTER 9 LOOKING FOR FIRST FROST

East Feliciana

Dr. Keating's and Dr. Dromgoole's records indicated that the first yellow fever case in East Feliciana was in Port Hudson on September 9, 1878. The Assistant Postmaster, R. G. Hummel, reported that 115 people fled the following day, out of a population of 200. He reported 64 total cases and 12 deaths in Port Hudson. A listing was provided to identify the dead. In the vicinity of Clinton, 187 cases and 43 deaths were reported; however, only 26 names were submitted. Mortality records for Port Hudson and Clinton from Dr. Dromgoole's Yellow Fever Heroes, Honors and Horrors of 1878 (Dr. Keating's were identical) are listed verbatim in Table 9.1 below.

Table 9.1. East Feliciana Mortality Records from Yellow Fever Heroes, Honors and Horrors of 1878

<u>Clinton</u>		
Butler, John S.	Depues, H.	Neson, Mrs. Libby
Camrer, J. L.	Hernon, Mrs.	Neson, Miss Libby
Cafert, J. J.	Marston, Geo.	Neson, Mr. Libby
Dixon, Mrs. Lucas	Marston, David	Reily, Miss Mary
Dapnes, Abraham	Marston, David	Reily, Rev. John A.
Drehr, Richard	Marston, Miss	Reily, George
Drehr, Miss	Mahoney, Mr.	Reily, Willie
De Grey, James	Mandon, Geo.	Rutherford, Dr., (nurse)
De Grey, James (child)	Newsom, James (child)	
 Port Hudson		
Heitzler, Sallie	Slawson, Dr. D. D.	Woods, Dr. G. W.
Marks, Jacob	Slawson, John	Woods, Frank
Marks, Hanna	Whittaker, Dr. J. B.	Woods, Clara
Marks, Abe.	Williams, Eugene	Woods, L. B.

The yellow fever fatalities listed by Dromgoole and Keating for which independent verification could be identified are listed in Table 9.2

Table 9.2. Confirmed Yellow Fever Fatalities in East Feliciana Parish in 1878

Name	Date of Death	Confirmation
DeLee Dr. Felix	78/09/01	Marston Journal, 2 Sept.1878
McKneely Rev. John F	78/09/04	Obituary in Patriot-Democrat, September 14, 1878
Depue A,	78/09/11	Obituary in Patriot Democrat, September 14, 1878
McKneely Idonia Browder	78/09/11	Obituary in Patriot Democrat, September 14, 1878
Bentley G.C.	78/09/13	Obituary in Patriot-Democrat, September 14, 1878
Marks Jacob	78/09/13	Marker, Port Hudson Cemetery
Slawson John S	78/09/14	Obituary in Weekly Advocate, September 20, 1878
Slawson Dr. D. D.	78/09/15	Obituary in Weekly Advocate, September 20, 1878
Harrison Eugene William	78/09/18	Marston Journal, September 19, 1878
Marks Hanna	78/09/22	Marker, Port Hudson Cemetery
Barremore Sarah H	78/09/26	Marker, Bluff Creek Church
Marks Abraham	78/09/28	Marker, Port Hudson Cemetery
Reiley Rev. John A	78/09/29	Marker, Reiley Home
Herron Mary Elizabeth Rhea	78/09/30	Marston Journal, October 1, 1878
Heirtzler Sarah (Sallie)	78/	Heirtzler Family Records
Wood Frank D	78/10/00	Obituary in Weekly Advocate, October 18, 1878
Rutherford Dr. L. H., Nurse	78/10/00	Howard's Records
Butler John S	78/10/02	Obituary in Weekly Advocate
Marston George D	78/10/06	Marston Journal, October 7, 1878
Dixon Mrs. Lucas (Georgia E)	78/10/08	Sagely, Page 63
Whittaker Dr. John B.	78/10/09	Obituary in Weekly Advocate, October 18, 1878
Wood Dr. G. W.	78/10/10	Obituary in Weekly Advocate, October 18, 1878
Reiley Mary T	78/10/15	Marker, Reiley Home
Drehr Miss	78/10/16	Marston Journal October 16, 1878
DeGray Capt. James	78/10/16	Marston Journal October 16, 1878
DeGray James (Child)	78/10/16	Marston Journal October 17, 1878
Mahoney Mr.	78/10/16	Marston Journal October 16, 1878
Reiley Amy C	78/10/23	Marker, Reiley Home
Reiley William M	78/10/23	Marker, Reiley Home
Nesom Elizabeth Reiley	78/10/23	Marker, Reiley Home
Drehr Richard S.	78/10/23	Obituary in the Southern Watchman, November 9, 1878
Dixon Willie Norwood	78/10/24	Sagely, Page 63
Marston Willey (Willie) *	78/10/24	Obituary in Southern Watchman, October 26, 1878
Covert Dr. J. J.	78/10/30	Obituary in Southern Watchman, November 2, 1878
Rogers James P	78/10/30	Marker, Hephzibah Cemetery

Some corrections of names were conjectured and ten fatalities were confirmed from other sources. Because the listings of fatalities were kept at local post offices, records were probably derived by word of mouth and handwritten (Dromgoole and Keating). Spelling would be suspect and duplicates or missing entries probable.

Verification could not be made for J. L. Camrer or J. J. Cafert; however, J. J. Covert was the Howard's physician assigned to the Marston plantation, Sandy Creek. Dr. Covert died on October 30, 1878. No Abraham Dapnes could be found; however, allowance for difficult handwriting might reveal Abraham Depues. Records of the death of Mr. A. Depue were found. Similar allowances would change George Mandon to George Marston.

Clara Woods or L. B. Woods from the Port Hudson listing were not found; however, the surname of Dr. G. W. and Frank D. Woods was "Wood." Mrs. Libby Neson was Mrs. Elizabeth Reiley Nesom. No Mr. or Miss Neson, Neasom or Nesom could be found. No record of a David Marston could be found.

Interviews with James Grey Marston, a descendent of Bulow (John Marston's brother), and Mildred Worrell of Clinton, Louisiana provided helpful information concerning the Marston family. Mrs. Lucas (Georgia A.) Dixon and Mrs. John (Emily) Marston were sisters. Mrs. Dixon died and Mrs. Marston recovered. The Dixons had a son named Davis and a daughter named Elizabeth "Bessie" who recovered. Miss Elizabeth "Lizzie" Marston, John and Emily's daughter, also survived the yellow fever. Willey (Willie) Marston and George Marston died of yellow fever. Henry and John Marston, Jr. survived.

The verified deaths from the original Dromgoole/Keating listing totaled 25. Journals and newspaper obituaries added ten names for a total of 35 confirmed yellow fever deaths in East Feliciana Parish.

Several sources of daily temperature records were found. The desired information was the low for each day. The signal corps of the War Department recorded temperatures for Cincinnati, St. Louis, Louisville, Memphis, Vicksburg and New Orleans. Calculating a temperature between those recorded for New Orleans and Vicksburg may have provided a reasonable record for the Felicianas but accuracy would be suspect. Also, the temperature was recorded each day at approximately 3:45 pm, which would trend the high temperatures, not the low. The temperatures that Dr. Robert Jones recorded each day were taken about 200 miles south of the Felicianas. The third source was Henry Marston's journal. He lived in Clinton, Louisiana and recorded the temperature each day upon arising, at noon and in the evening. Mr. Marston was an early riser and would have recorded the temperature between six and seven o'clock each morning. The low for each 24-hour period is usually just before dawn, so his record is not an ideal solution, but his records were taken nearest to the yellow fever sites.

In late July of 1878, a heightened level of concern was developing in the Felicianas. The local newspapers began to reprint yellow fever articles and notices. News dispatches were posted daily in Clinton and Jackson. Residents were discussing places to which they might "retire" should the yellow fever appear (Marston Journal, July 29, 1878). On July 30, 1878, both townships passed rigid health ordinances.

The Clinton Ordinance, as amended on August 3, detained any person traveling on the Mississippi River by boat or by road for 15 days before entry into the corporate limits. The Board met again on August 12, 1878 and made allowances for the representatives at the Constitutional Convention to enter the town of Clinton after being detained for only 10 days. They further stipulated at that time the Mayor had the authority to make such future judgments

without calling the Board, unless it was a question of determining whether a town or district was infected.

Reverend M. B. Shaw was authorized to ascertain the number of families that wished to remove to the country and did not have horses or means of subsistence if they did so and report this information to the Mayor and Board of Aldermen as soon as possible. A committee was appointed to provide the number of vacant houses in their neighborhoods that could be obtained for the families desiring to move to the country and what transportation could be furnished them (Minutes and Proceedings of the Board of Aldermen of the Town of Clinton, August 26, 1878).

Reverend Shaw reported that about ten families in Clinton wished to take refuge from yellow fever but had neither a place of refuge nor means of transportation, and would require sustenance if they were removed (Minutes and Proceedings of the Board of Aldermen of the Town of Clinton, September 2, 1878). Emily Marston was reported to be ill on September 2 (Marston Journal).

On September 3, 1878, the Police Jury of East Feliciana Parish issued health ordinances that in essence extended the prohibitions of Jackson and Clinton to the parish borders. The punishment for violation was a fine, at the discretion of the court, not to exceed \$1,000 and/or imprisonment, not to exceed two years. Confirmed yellow fever mortalities occurred in Port Hudson on September 4 and 6. On September 6, 1878, Henry Marston reported in his journal that “a number of families have left for the country.” Rail cars left Clinton for Port Hudson the morning of September 9 to pick up a large shipment of supplies from St. Louis, and Captain DeGray, or DelGray, was reported ill (Marston Journal).

Yellow fever also struck the Depue home early in September. The head of the household, Mr. A. Depue, died on September 11, 1878. Dr. O. P. Langworthy, his physician,

wrote a letter to Mrs. Langworthy that morning that was published in the East Feliciana Patriot-Democrat on the following Saturday, September 14, 1878. "Dearest Wife," he wrote, "Mr. Depue presents so many symptoms of yellow fever that whether it is or not, I deem it my duty, in accord with my card, to make it public, and not go in without the consent of the corporate authorities -- not any way without changing clothes." He asked her to gather a change of clothes for him and leave them at the quarantine picket. He planned to remain with Mr. Depue until he died, or improved; and then go to check on another patient before going to the picket. He said he had no objection to anyone reading his note, and assured her that it had been written with hands washed in carbolized water. He closed with "There would be no danger from my coming in on changing clothes, but I will give no offense that I can help consistent with duty. Your affectionate husband, O. P. Langworthy."

The town of Clinton established a quarantine against the Marston and Depue residences on September 11, 1878. The epidemic was spreading rapidly in Baton Rouge at this time and it was speculated that Mr. Depue had been in Baton Rouge recently and had contracted the disease there. The Clinton post office record read, "by negligence of the guard on the Baton Rouge road," a child of James Newsom was "permitted to mingle with parties from the infected district; however, the demise of the young Newsom could not be verified.

On September 19, 1878, Henry Marston reported that there were several cases of yellow fever in Port Hudson and one death, that of the son of Dr. Harrison. On September 24, 1878, the Board resolved that as the quarantine against the Depue and Marston places would expire on Thursday morning, the 26th instant, that Dr. Langworthy and John S. Butler, of the Depue household, would be permitted to return to Clinton on that day.

On September 28, 1878, the Clinton Board of Aldermen met to determine if the Clinton & Port Hudson (C&PH) railroad should be permitted to carry cotton to Port Hudson and bring back provisions. There was also a wagon outside of town with a load of pork, bacon, and flour for merchants in Clinton. The Board directed the constable to determine if there were no prohibited articles on the wagons and have those not prohibited by regulation taken into Clinton by wagon from the town. The Board agreed that it was necessary to transport the cotton crop without endangering the health of the people. By unanimous vote they determined that the C&PH railroad could make three trips per week to the river provided the following requirements were met:

- The engine goes down to not less than three miles of Port Hudson and the engine called the dummy run up from Port Hudson and receive the produce from the larder and provided further the hands on the two trains be separate sets and be not allowed to visit or co-mingle with each other.
- And that engines, trains and hands not be permitted to come within half a mile of each other,
- Provided also that the following enumerated articles and none others may be brought to Clinton by said larder: to wit, pork, bacon, hams, beef, lard, whisky, beer in kegs, coal oil, sugar in barrels, hogs heads, molasses, rice and chewing tobacco.
- Each trip to said train shall be in charge of the mayor or a member of the board of aldermen, one of whom shall accompany said train as a health officer.

On October 1, on a petition from a number of citizens, the Board authorized continuance of a strict quarantine of Clinton. Drs. Langworthy and Saunders said those families who have moved from town into the country should not return until danger of the yellow fever has past or at least until after two or three heavy frosts.

By order of the quarantine, not until the third Wednesday of October would the cars be permitted to go down to Port Hudson. Only products of the parish would be brought into Clinton

and no cotton exported until the repeal of the ordinance. The Mayor was to see that the health ordinances were strictly enforced.

On November 1, 1878, the Board acted on quarantine ordinances affecting physicians. The following relocation was offered and unanimously adopted: “Whereas Drs. Langworthy and Stumpf who have been in attendance on the sick at the places Marston, Dupue, Reiley and DeGray are desirous of coming into town. Resolved that the said Drs. Langworthy and Stumpf be admitted to the residence of Dr. Langworthy within the corporate limits of the town with the instruction that they shall refrain from mingling the public for a space of four days until after the meeting of the Board on Tuesday next, November 5, and that they take all necessary precautions before coming into town.” This entry in the minutes of the Board of Aldermen implied current yellow fever cases at these four residences.

On November 5, 1878, the Board of Aldermen were called in by petition of Drs. Langworthy, Saunders, Carruth and Stumpf to raise the quarantine affecting persons who had recently nursed yellow fever patients and persons who had recently had the yellow fever in the parish. A resolution was passed removing the quarantine of the Town of Clinton as of November 5 for all persons residing within the parish.

On November 12, the Mayor was authorized to dispose of the pickets and turn the proceeds over to the corporation treasury. “Resolved that the quarantine is hereby raised and the town after this date is open to the whole world with the following exception; woolen goods of any description and blankets and also bedding that has been used in an infected district shall not be brought into the town until further orders from the Mayor (Minutes and Proceedings of the Board of Aldermen of the Town of Clinton, 1878).

The total number of deaths confirmed in East Feliciana for 1878 (57) and 1880 (16) are represented in Figure 9.1. Out of the total number of deaths in 1878, 35 were verified to have been caused by yellow fever.

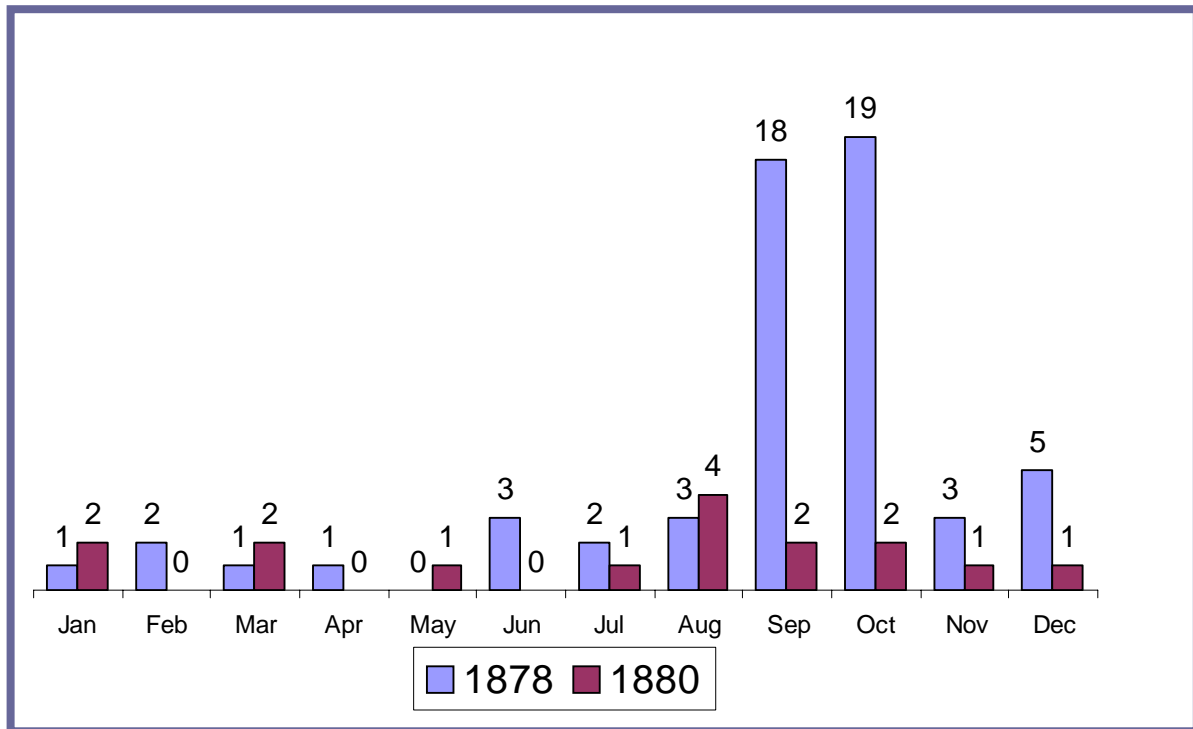


Figure 9.1. Recorded Deaths in East Feliciana for 1878 and 1880

A drop to 50°F results in the demise of the *A. aegypti* imago and the egg succumbs at 35°F. It was general knowledge in 1878 that yellow fever ceases after “first frost.” Figures 9.2A through E represent the early morning temperature (0600 to 0700) in Clinton each day from July 1 to November 30 of 1878 superimposed over representations of the applicable temperature levels for elimination of the adult mosquito and the demise of the egg. The temperatures shown were recorded each day by Henry Marston, a resident of Clinton, Louisiana and noted in his daily journal (Marston Journal 1878).

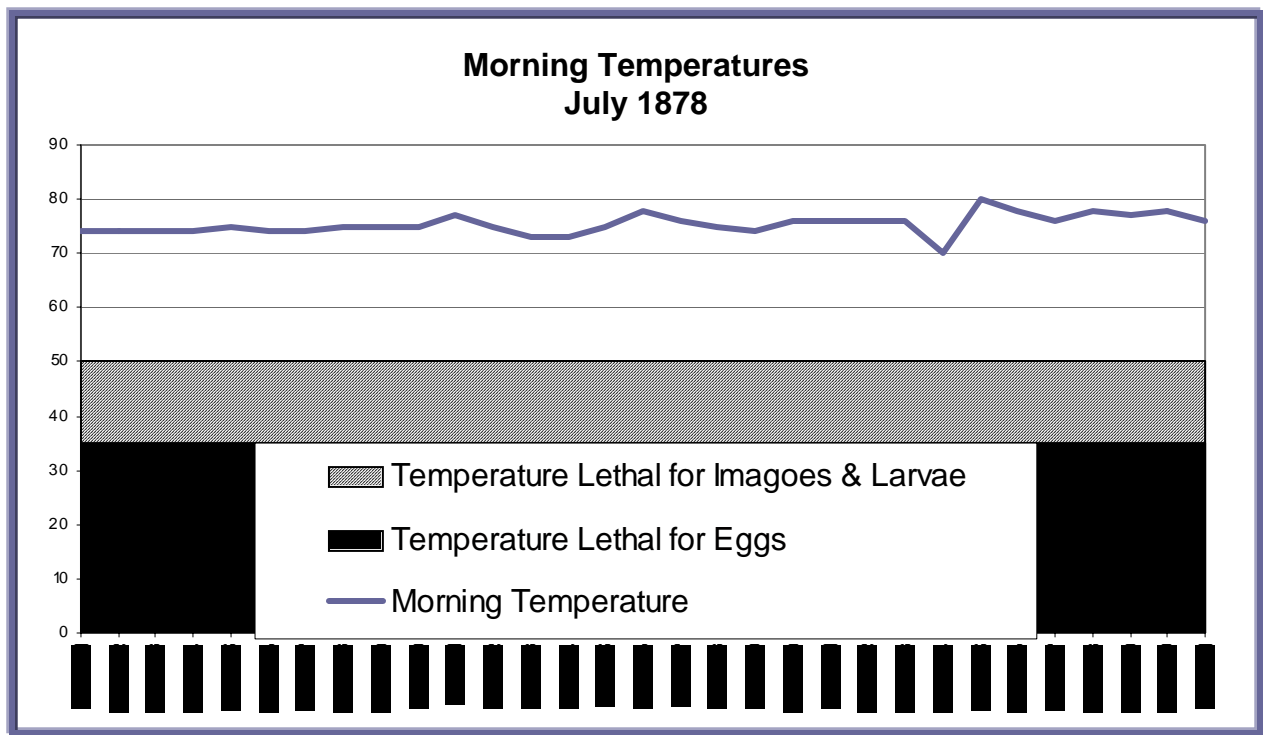


Figure 9.2A. Morning Temperatures During the Month of July, 1878 Shown Against the Lethal Temperatures for the *A. aegypti* Mosquito.

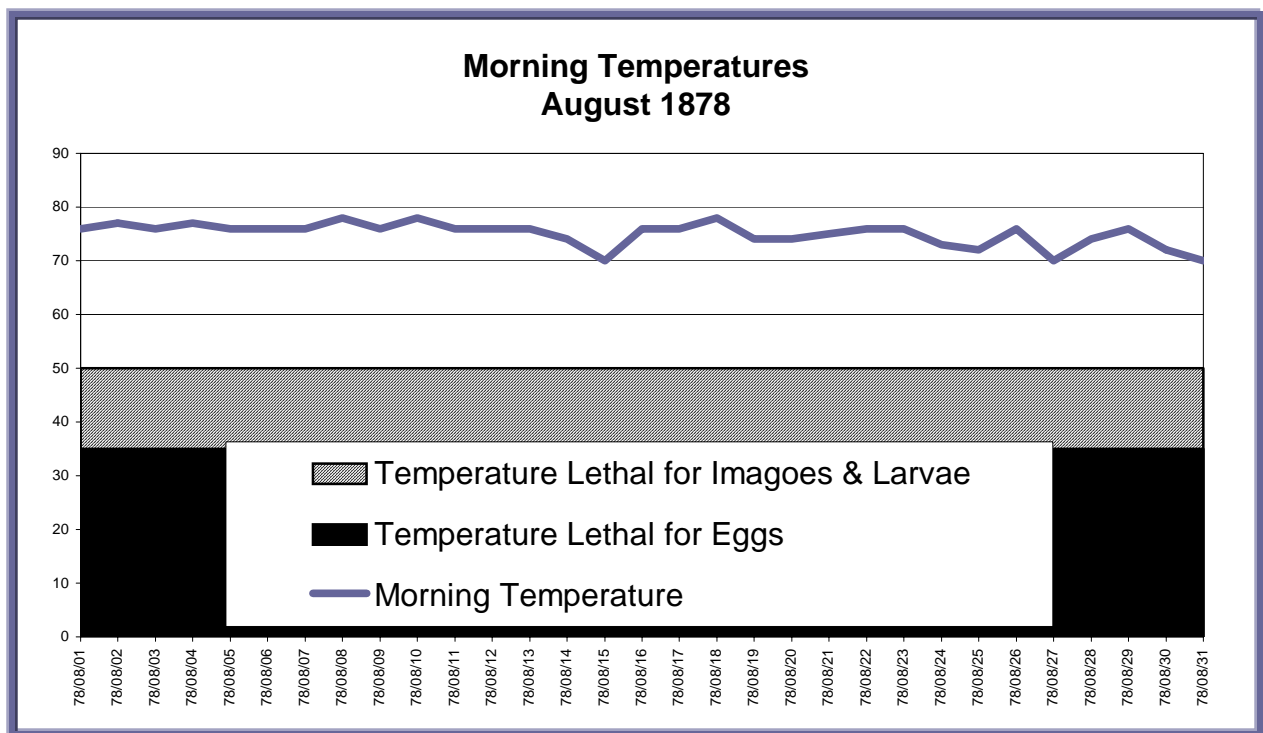


Figure 9.2B. Morning Temperatures During the Month of August, 1878 Shown Against the Lethal Temperatures for the *A. aegypti* Mosquito.

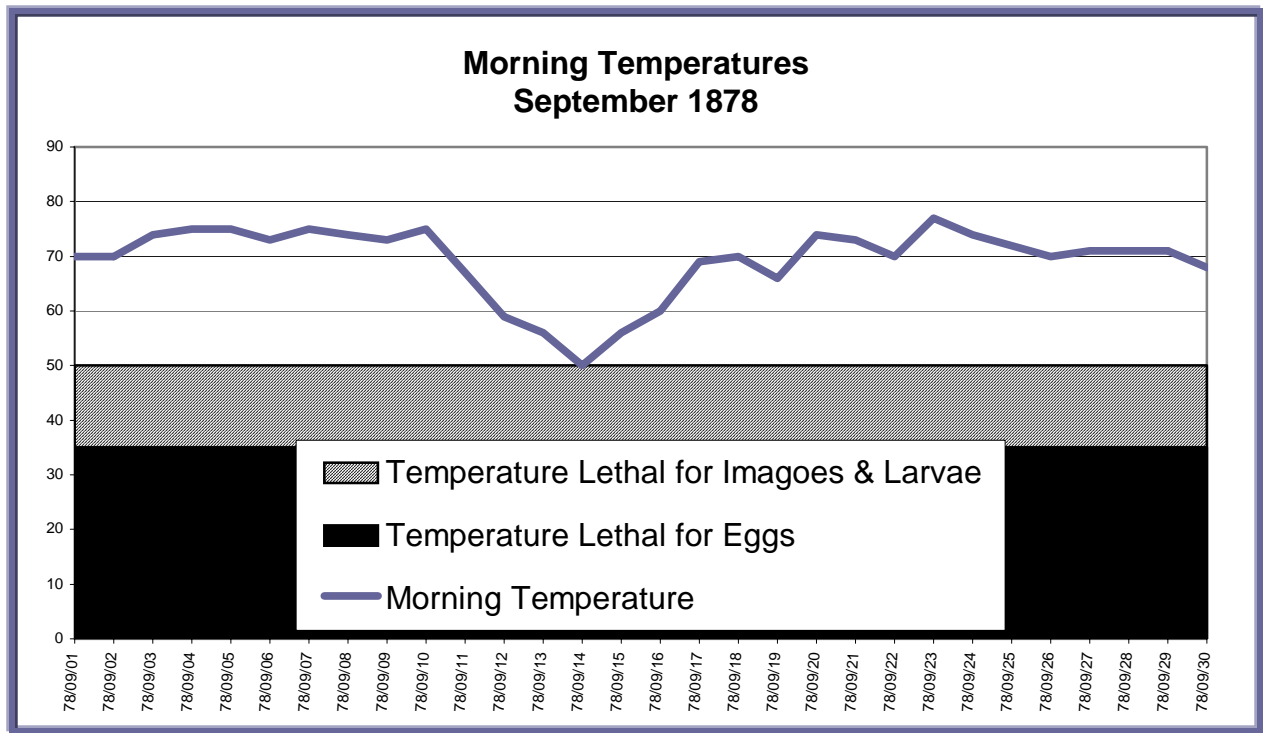


Figure 9.2C. Morning Temperatures During the Month of September, 1878 Shown Against the Lethal Temperatures for the A. aegypti Mosquito.

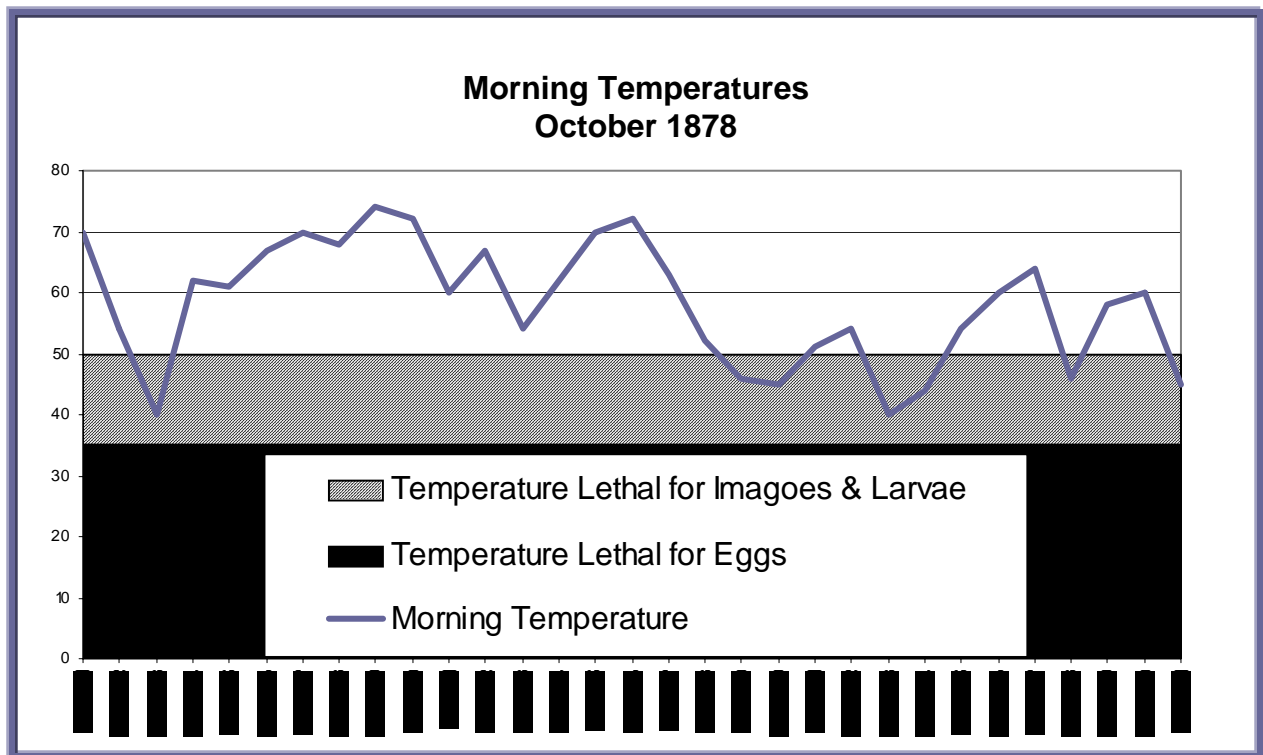


Figure 9.2D. Morning Temperatures During the Month of October, 1878 Shown Against the Lethal Temperatures for the A. aegypti Mosquito.

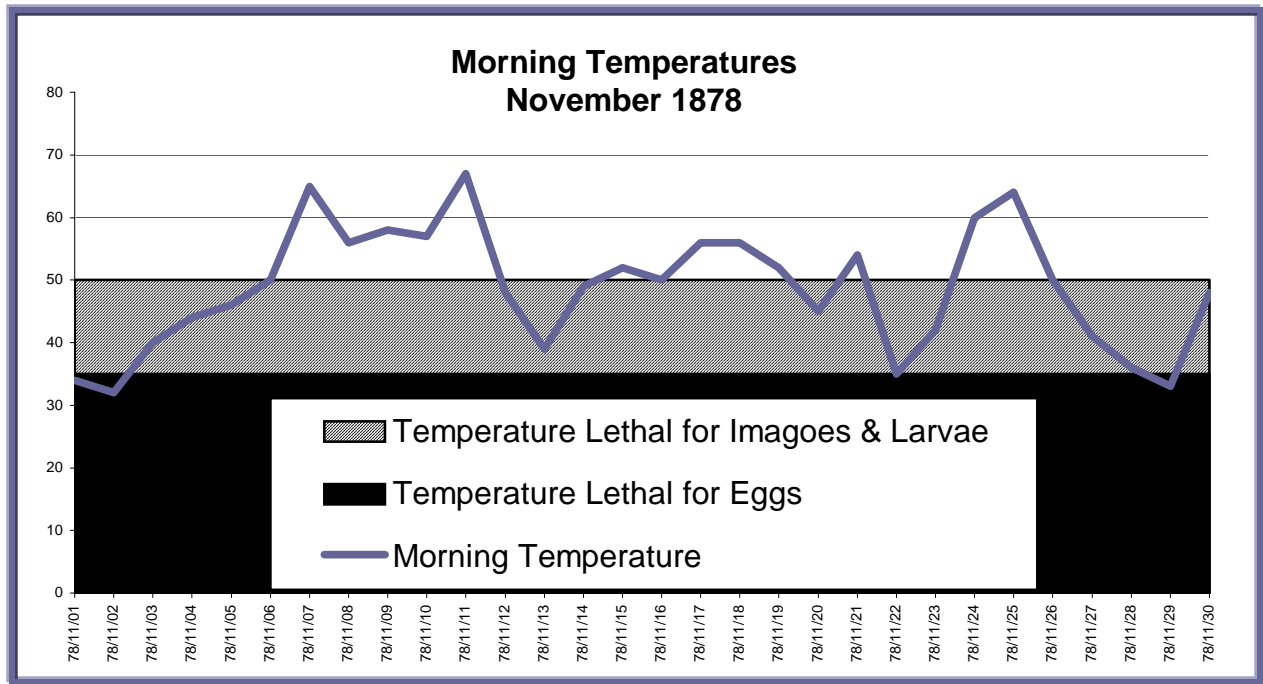


Figure 9.2E. Morning Temperatures During the Month of November, 1878 Shown Against the Lethal Temperatures for the *A. aegypti* Mosquito.

CHAPTER 10

DISCUSSION AND CONCLUSIONS

Analysis of the spread of yellow fever across the Felicianas in 1878 highlights several patterns.

The disease itself in one instance made extensive inroads within the confines of a closely populated Port Hudson. Clinton, however, which was more than three times as populated (approximately 1,000 to 200), was relatively unscathed and the disease struck hardest instead from family to family in the countryside. The completely unpredictable Yellow Jack fed the panic response of the citizenry. (See Figure 10.1.)

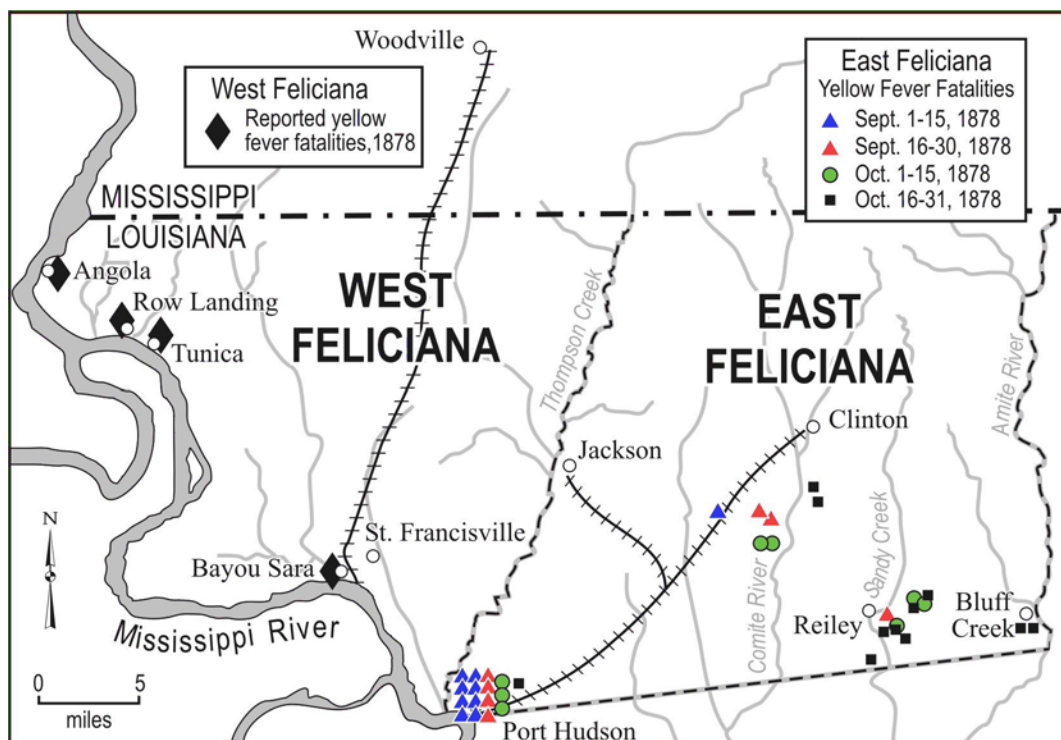


Figure 10.1. Map of East and West Feliciana Showing the Locations of Yellow Fever Fatalities. (Map designed by Mary Lee Eggart, Louisiana State University.)

Yellow fever was a disease that devastated the commercial activity that introduced it. The irony compounds with the realization that it was the scourge's effect on trade that ensured a campaign to eradicate it. Although it took another twenty-five years to isolate the cause of yellow fever, the creation of a national board of health was a more immediate result of petitions in 1878 for a national quarantine and frustrations, noted again and again, with many varying local quarantines.

The people of the Felicianas reacted to Yellow Jack on many levels. A study of the writings about what they did, and what they said about it, reveals physical, economic and social responses. Yellow fever caused them to examine or reexamine their ethics, their politics and their convictions. As is usually true of any cultural group, they had their heroes and their villains.

They exhibited a range of responses and reactions. The newspapers of the area, in Clinton, St. Francisville, New Roads, Plaquemine, Woodville, Baton Rouge, and those from New Orleans set out the examples, from the ad that read, "For a full supply of mourning goods, be sure to see Kaufman's," to "I must also pay a well deserved tribute to Dr. O. P. Langworthy to whose untiring assiduity & skillful management of the above mentioned [Marston Family] cases may be attributed the recovery of those who escaped this mournful and extraordinary visitation; assisted by the abilities of Dr. Covert who most emphatically fell a martyr in the cause of humanity & is deserving the erection of a monument, worthy of the memory of a most noble & courageous character" (Iberville South, Henry Marston Journal, 1878").

In early 1878 articles began to appear in the New Orleans newspapers proclaiming an ice monopoly in New Orleans ("The Ice Question"). With the onset of the fever, the cost of ice climbed from \$12 to \$60 per ton (Daily Picayune July 27, 1878). There was much debate up and

down the river and several plans were devised to procure ice at a more reasonable price (Daily Picayune July 30, 1878). R. W. Whiteman of Bayou Sara was a wholesale and retail dealer for Northern Ice. He advertised “ice carefully packed, shipped per order and for sale at prices below those of New Orleans dealers” (Feliciano Sentinel Aug. 3, 1878). It would seem, then as now, the profit motive is strong.

In 1878, many quarantines were extended to include even first class mail. Debates were recorded in the newspapers disparaging the extremely rigid and extensive local quarantines (Price Current August 28, 1878). Mercantile interests began to push for a national quarantine (Price Current August 28, 1878).

Each town or village instituted some form of sanitation program. Most followed provisions similar to those in Clinton. Bayou Sara also burned coal and tar fires every day and relied on a wharf boat as a barrier to the spread of infection.

The following health ordinance of Clinton is typical of those established to ward off yellow fever infection.

Whereas cleanliness is absolutely necessary to good health, and whereas the Mayor and Board of Aldermen have been informed that some premises within the Corporation are in a filthy condition and should be immediately cleaned, therefore be it resolved that a committee of three citizens be appointed by the Mayor to inspect the condition of all houses, premises, lots, yards, structures, ditches and report the condition of the same to the Board; that said inspection commence Thursday, the 8th day of August 1878.
Be it resolved that the Mayor is hereby directed to purchase ten pounds of lime to be sold at retail to the citizens of the Town of Clinton at cost.

The following health ordinance was passed by the Board to continue in force until repealed by the Board. To wit,

Whereas, it has been ascertained by the Mayor and the Board of Aldermen of the Town of Clinton, that the City of New Orleans and some river towns are infected with the yellow fever and in order to preserve the good health of the Town of Clinton, therefore be it resolved:

1. That from and after this date, no person shall be permitted to come within the limits of the Town of Clinton from New Orleans or any other town or city or district infected with the yellow fever;
2. That no person shall receive in his or her premises within said Corporate limits any person from New Orleans or any other infected town, city or district.
3. That no person should introduce or bring into the Town of Clinton from any infected city town or district any of the following enumerated goods and articles during the existence of the ordinance. To wit, blankets, woolen goods of any description or kind, bagging, rope coffee in sacks, any merchandise packed in straw, or goods of any kind packed in boxes, bales or crates;
4. That during the existence of this ordinance the passenger trains on C&PH [Clinton and Port Hudson] railroad on each trip returning from Port Hudson shall halt at the corporate limit and be inspected by a health officer of the Town of Clinton acting under instructions from the Mayor, who is charged to see that no person from an infected district or city shall enter the Town of Clinton;
5. That no person shall be permitted to bring the corpse of a person from any infected district, town or city into, or carry the same through, the Town of Clinton until the suspension of this ordinance;
6. That each and every person violating any of the provisions of this ordinance shall pay a fine of not exceeding \$50, one half shall go to the informer, and that all persons entering the Corporate limits in violation of this ordinance shall be immediately removed from the Town by the town officers;
7. That every male citizen residing in the corporate limits of the Town of Clinton is hereby appointed a special officer and guard to see that this ordinance is enforced and obeyed, and are hereby strictly enjoined to report any infraction of the same immediately to the Mayor; of Ordinance of July 30th, 1878.

Given that this ordinance shall take effect from and after this date, be it resolved that the Mayor be, and he is hereby directed to have 150 copies of this ordinance presented in handbill form for distribution.

(Copied from the Minutes of the Board of Aldermen, Clinton, LA,
July 30, 1878)

These resolutions indicate they believed that the infection was spread through general filth and decaying matter; airborne contamination; infected persons; clothing and bedding used by victims; wrapping or packaging; and corpses of victims. This meant that any stranger was suspect; any freight may have been infected; infection spread through the air and from cloth and cording as well as from the sick. Ultimately, it meant that burials were likely to have been isolated and unmarked.

City officials apparently believed that a resolution affecting yellow fever victims, alive or dead, would require the authorization of fines and that this process would be effective if informers were paid. This would seem to be an accurate assessment. The same general political philosophy is in effect today.

The Board of Stewards for the Methodist Church of Clinton pondered whether a preacher in charge should take refuge from yellow fever by removing from town should it make its appearance. After much deliberation, considering the implications of the duties of a pastor to his flock and theirs to him should he become ill, they said they must make a practical determination. "Our preachers are but teachers of the word of God; they can instruct the living, they cannot save the dead." Reverend J. W. McLaurin was told that when most of his flock takes refuge, then so should he, especially if he is unacclimated (Patriot-Democrat Saturday, September 14, 1878).

Ads appeared in the local newspapers during and shortly after the epidemic in which merchants declared they would not take advantage of the public. They would maintain regular prices or they would offer discounted prices. (See Figures 10.3 and 10.4.)

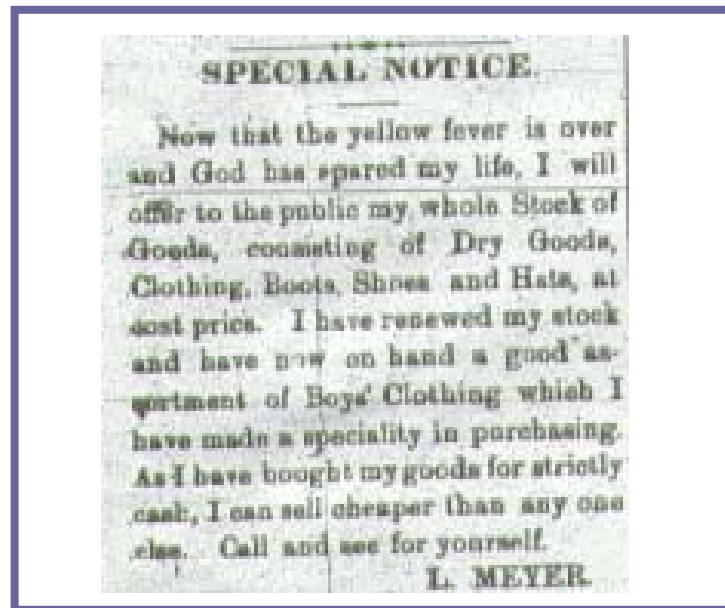


Figure 10.3. From the Felician Southern, November 2, 1878

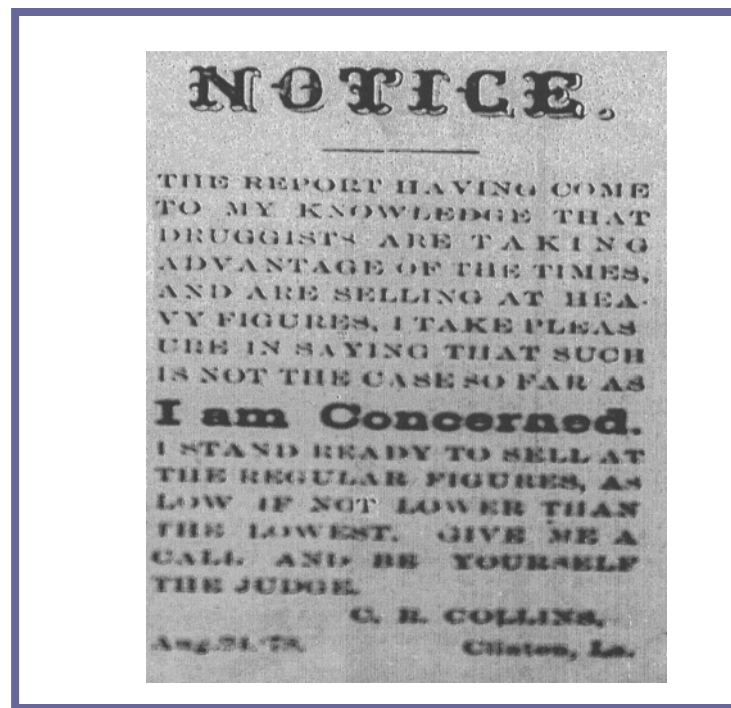


Figure 10.4. From the Clinton Patriot-Democrat, September 9, 1878

According to Marston family lore, Emily Hatcher Marston had yellow fever early in September and recovered, after which her husband John successfully petitioned the Board of Aldermen to release him from quarantine. He went away, and Emily was left to cope alone when the rest of the family became ill (Worrell, Mildred). Henry Marston's journal and other historical sources place John Marston at home during the yellow fever epidemic. His petition was not to be allowed to leave, but to be allowed to enter the corporate limits of Clinton.

The following notations drawn from Henry Marston's journal are included to correct this misconception for the descendents of John Marston.

September 29	Mr. Marston reported that his grandson, Henry, came up for medicines for his mother, Emily, and his little brother, George. They were both quite ill.
September 30	Henry returned to take his grandmother back home with him.
October 1	Mr. Marston reported that John, who was a member of the police jury, had not come into town for the meeting and he was concerned that Emily's illness had kept him at home.
October 2	John's home was quarantined.
October 3	Henry Marston received a note from John "through the picket" stating that little George was still quite ill
October 4	Little George was still very sick and little Bessy [Dixon] had fever all night. John requested medicines and his father "sent same out to the picket to be forwarded."
October 5	A notation read, "Received note from our son announcing the death of his dear little son George, aged 7 years."
October 6	A note from John left at the picket reported the illness of Georgia Dixon, his sister-in-law.
October 7	Henry Marston reported that he met his son at the picket. John reported Mrs. Dixon still quite ill and his daughter Lizzie [Marston] to be "complaining somewhat."
October 8	He wrote that he went to the picket and took one pair of shoes and a note for John.
October 9	While at breakfast, Mr. Marston wrote, he received a note from John announcing the death of Georgia Elizabeth Dixon.

October 10	He reported learning that his grandson, Henry was ill.
October 11	He said he met John at the picket and learned that all were well. He said he sent supplies to his wife who was still at John's home.
October 15	John had his home completely cleaned and whitewashed.
October 16	A note from John contained the "unwelcome news" that Lizzie, John's daughter, and Mr. Dixon's son, Davis, were down with the fever.
October 17	He reported "the alarming news" that four people were ill at Sandy Creek Plantation – his wife, his son John, Lizzie and Davis. "AE [Henry Marston's daughter, Anna Elizabeth] may go down in the morning to help," he wrote.
October 18	This day brought the news of a fifth patient, little Johnny Marston, Jr. AE, he reported, "determined to go at once."
October 19	He received a report of three new cases at Sandy Creek. A letter from AE reported that Henry Marston, Willie Marston, and Norwood Dixon were ill.
October 20	A note from AE reported ten cases of yellow fever. The ten patients were John Marston, his sons Henry, Willie and Johnny and his daughter, Lizzie; Lucas Dixon, his daughter, Bessie and his sons, Norwood and Davis; and Dr. J. J. Covert.

With the doctor also quite ill, at this point the care for all patients would have fallen on Emily, AE and Mrs. Marston. Emily was not deserted by John and thankfully was not the sole caregiver. However, the stories about neighbors leaving food at the fence may be quite accurate.

This detailed study of yellow fever in a rural area has highlighted several truths. First, the disease struck where the vector was taken and then spread to susceptible hosts present. Yellow fever was an urban disease because more susceptible hosts were available in a small area, not because cities were specialized targets. Second, the residents of the Felicianas, like those in other areas, were terrified by the shadowy stalker, Yellow Jack. Their efforts to protect themselves and to protect their livelihoods were in conflict. Yellow fever pervaded every aspect of their lives. They reacted politically, commercially and socially. The effects of yellow fever

were found in their religious considerations and their personal relationships. This study has highlighted some of these details as well as the spread of yellow fever among these residents. Third, delving into the history of this small area of Louisiana has shown that the number of fatalities were much greater than recorded. Less than 25 fatalities were reported for the Felicianas. The map below (Figure 10.5) shows the accumulated information from recorded fatalities in 1878.

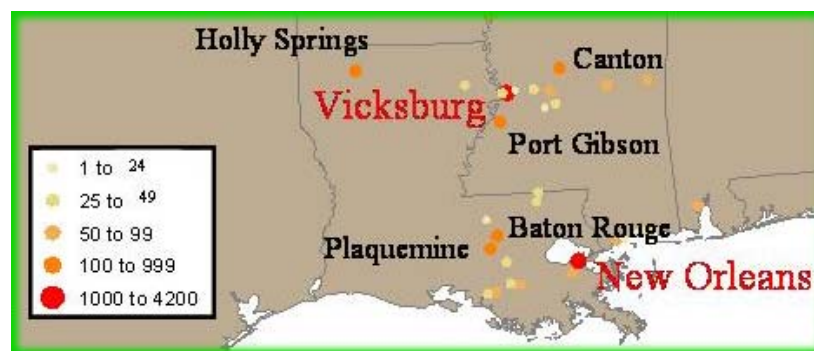


Figure 10.5. Map from Class Presentation. Copied with Permission of Prof. Andrew Curtis, Geography and Anthropology, Louisiana State University.

As evidenced by this research, the fatalities numbered 42 at a minimum. Finally, the devastation visited upon these residents, particularly in East Feliciana, would seem to belie the characterization of yellow fever as an “urban” disease.

REFERENCES CITED

“A Just Tribute.” Feliciana Sentinel 28 Sept. 1878.

Ackernecht, Erwin H. History and Geography of the Most Important Diseases. Hafner Publishers. New York 1965.

--- A Short History of Medicine. Johns Hopkins University Press. Baltimore 1982.

“Bayou Sara Fumigated.” Iberville South 23 Sept. 1878.

Bloom, Khaled J. The Mississippi Valley’s Great Yellow Fever Epidemic of 1878. Louisiana State University Press. Baton Rouge 1993.

Browne, Joseph. A Practical Treatise of the Plague and All Peftilential Infections that have happen’d in this Ifland for the Laft Century. Printed for J. Wilcox at the Green-Dragon in Little-Britain 1720.

Bylaws Ordinances, and Proceedings of the Meetings of the Board of Aldermen of the Town of Clinton, Louisiana, 3 Aug. 1878.

--- 12 Aug. 1878.

--- 26 Aug. 1878.

--- 26 Aug. 1878.

--- 02 Sept. 1878.

“CDC: West Nile Virus Website” Center for Disease Control. Nov 2002. CDC. 9 Nov. 2004. (http://www.cdc.gov/ncidod/dvbid/westnile/prevention_info.htm)

Carrigan, Jo Ann. The Saffron Scourge: A History of Yellow Fever in Louisiana 1796-1905. Center for Louisiana Studies, University of Southwestern Louisiana. Lafayette 1994.

Christophers, Sir Rickard. Aëdes aegypti (L.) The Yellow Fever Mosquito: Its Life History, Bionomics and Structure. Cambridge University Press, London 1960.

Colbatch, Sir John. A scheme for Proper Methods to be taken fhould it pleafe GOD to vifit us with the Plague. J. Darby. London 1721.

“Council Proceedings.” Feliciana Sentinel 03 Aug. 1878.

“Council Proceedings.” Feliciana Sentinel 24 Aug. 1878.

Daily Picayune 5 May 1878

--- 5 June 1878

--- 19 July 1878

--- 19 July 1878

--- 21 July 1878

--- 24 July 1878

-- 30 July 1878

“Distressing Fatality.” Feliciana Sentinel 21 Sept. 1878.

Doane, Rennie W. Insects and Disease: A Popular Account of the Way In Which Insects May Spread or Cause Some of our Common Diseases. American Nature Series, Group IV. Working with Nature. Henry Holt and Company. New York 1910.

Dromgoole, John Parham. Yellow Fever Heroes, Honors, and Horrors of 1878. Louisville 1879.

Duffy, John. Sword of Pestilence: The New Orleans Yellow Fever Epidemic of 1853. Louisiana State University Press. Baton Rouge 1966.

East Feliciana Patriot-Democrat 7 July 1877

--- 11 Aug. 1877

--- 28 July 1878

--- 28 Aug. 1878

--- 29 Aug. 1878

--- 9 Sept. 1878

“The Rail Road to Baton Rouge.” The East Feliciana Patriot-Democrat 7 July 1877

Feliciana Sentinel 11 Aug. 1877.

--- 03 Aug. 1878.

--- 12 Aug. 1878

--- 17 Aug. 1878.

--- 19 Aug. 1878.

--- 24 Aug. 1878.

--- 31 Aug. 1878.

--- 14 Sept. 1878.

--- 21 Sept. 1878.

--- 12 Oct. 1878.

--- 19 Oct. 1878.

--- 26 Oct. 1878.

--- 02 Nov. 1878.

Finlay, Carlos Juan (Charles). "El Mosquito Hipoteticamente Considerado como Agente de transmision de la Fiebre Amarilla." Habana 1881.

--- "Yellow Fever: Its Transmission by Means of the Culex Mosquito." American Journal of the Medical Sciences 92 (1886): 395-409.

Fortier, Alcee (Editor). Louisiana: Comprising Sketches of Counties, Towns, Events, Institutions, and Persons, Arranged in Cyclopedic Form, Volume II, Southern Historical Associations. Atlanta 1909.

Gorgas, William Crawford. Sanitation in Panama. D. Appleton and Company, New York 1918.

Grace Episcopal Church. St. Francisville, Louisiana. Funeral Records 1878.

"Heath." Feliciano Sentinel 26 Oct. 1878.

Heirtzler, Jerry and Mildred. Personal interview. 28 April 2004.

Hildreth, Flora Bassett. The Howard Association of New Orleans, 1837-1878. Dissertation submitted to University of California, Los Angeles Department of History 1975.

Howard Association of New Orleans. Report of the Howard Association of New Orleans, of Receipts, Expenditures, and Their Work in the Epidemic of 1878. New Orleans 1878.

- Humphreys, Margaret. "Yellow Fever and the South," in Health and Medicine in America Society Series. Ed. Judith Walzer Leavitt and Morris Vogel. Rutgers University Press, New Brunswick 1992.
- Hunter, Louis C. with the assistance of Beatrice Jones Hunter. Steamboats on the Western Rivers: An Economic and Technological History. Dover Publications, Inc. New York 1993.
- Jones, Ann Reiley. Personal interview. 24 Sept. 2003.
- Jones, Joseph. Medical and Surgical Memoirs, Containing Investigations on the Geographical Distribution, Causes, Nature, Relations and Treatment of Various Diseases. 3 Vols. in 4. New Orleans 1876-1890.
- The Relation of Quarantine to Commerce in the Valley of the Mississippi River, During a Period of Eight Years, 1880-1887. New Orleans 1889.
- Keating, J. M. A History of the Yellow Fever: The Yellow Fever Epidemic of 1878, in Memphis, Tenn. Printed for the Howard Association, Memphis 1879.
- Kerns, Gloria Lambert, Compiler. Death Notices from Louisiana Newspapers 1824 - 1887, Volume V. Folk Finders, Inc., Baker 1985.
- Marston, Henry. Journal, 1878. Henry Marston Family Papers, Louisiana and Lower Mississippi Valley Collections, LSU Libraries, Baton Rouge 02 Sept. 1878.
- 06 Sept. 1878.
- 09 Sept. 1878.
- 29 Sept. 1878.
- 30 Sept. 1878.
- 01 Oct. 1878.
- 02 Oct. 1878.
- 03 Oct. 1878.
- 04 Oct. 1878.
- 05 Oct. 1878.
- 06 Oct. 1878.

--- 07 Oct. 1878.
--- 08 Oct. 1878.
--- 09 Oct. 1878.
--- 10 Oct. 1878.
--- 11 Oct. 1878.
--- 15 Oct. 1878.
--- 16 Oct. 1878.
--- 17 Oct. 1878.
--- 19 Oct. 1878.
--- 20 Oct. 1878.

Marston, James Gray. Personal interview. 3 Oct. 2003.

May, Jacques Meyer. Ecology of Human Disease. MD Publications, New York 1958.

“Proceedings of the Yellow Fever Commission and Related Articles.” New Orleans Times
3 Jan. 1879

--- 4 Jan. 1879

--- 5 Jan. 1879

--- 6 Jan. 1879

New Orleans Price Current, Commercial Intelligence & Shipping List. 8 May 1878

--- 25 May 1878

--- 29 May 1878

--- 01 June 1878

--- 05 June 1878

--- 06 June 1878

--- 12 July 1878

--- 13 July 1878

--- 17 July 1878

--- 24 July 1878

--- 27 July 1878

--- 28 Aug. 1878

“Police Jury Proceedings.” Feliciana Sentinel 10 Aug. 1878.

Public Health Website

“Public Meeting.” Feliciana Sentinel. 10 Aug. 1878.

“Quarantine Proclamation.” Feliciana Sentinel 3 Aug. 1878.

“Receipts of Produce by Steamboat.” New Orleans Price Current, Commercial Intelligence & Shipping List 28 Aug. 1878.

Reed, Walter. “The Propagation of Yellow Fever: Observations Based on Recent Researches,” Medical Record 60 (1901): 201-209.

Republican (Woodville) 14 Aug. 1878

--- 07 Sept. 1878

--- 14 Sept. 1878

--- 24 Aug. 1878

Reports and Papers of the American Public Health Association. Vols.1-30. 1873-1905.

“Reverend McLaurin.” The Patriot-Democrat 14 Sept. 1878.

Sagely, Mary Ann Smith Cemeteries of East Feliciana. Route 2, Box 53, Clinton, Louisiana 70722. Copyright 1970

“Sanatary [sic] Measures.” Feliciana Sentinel 3 Aug. 1878.

Smillie, Wilson G. Public Health, Its Promise for the Future: A Chronicle of the Development of Public Health in the United States, 1607-1914. Macmillan. New York 1955.

Smith, Ashbel; Leake, Chauncey Depew An Account of Yellow Fever in Galveston, in 1839. University of Texas Press Austin 1951.

“Steamships: Havana and Florida Ports” The Daily Picayune 9 May 1878

“The Ice Question.” The Daily Picayune 27 July 1878.

“The Yellow Fever.” Feliciano Sentinel 3 Aug. 1878.

The Yellow Fever Commission Third Day’s Session.” The New Orleans Times. 3 Jan. 1879.

“The Yellow Scourge.” Feliciano Sentinel 24 Aug. 1878.

Truby, Albert E. Memoir of Walter Reed: The Yellow Fever Episode. Paul B. Hoeber, Inc.- Medical Book Department of Harper & Brothers, New York 1943.

U. S. Post Office Records,

Vexler, Robert I.

1978 Chronology and Documentary Handbook of the State of Louisiana. Oceana Publications, Inc., Dobbs Ferry

W.P.A. Collection, Historical Records Survey, Transcriptions of Louisiana Police Jury Records Mss. 2984, Louisiana and Lower Mississippi Valley Collections, LSU Libraries, Baton Rouge, LA.

World Health Organization Publication. Prevention and Control of Yellow Fever in Africa. Geneva 1986

Worrell, Mildred P. Letter to writer with enclosure, dated 12 Sept. 2003. Enclosure was a xerox copy of a page noting 1878 events from Abbie Marston McLelland’s handwritten abstract of family letters and journals of her paternal grandfather, Henry Marston of Clinton and other miscellaneous family correspondence and papers.

--- Personal interview. 4 Sept. 2003

--- Personal interview. 3 Oct. 2003

“Yellow Fever.” Feliciano Sentinel. 10 Aug. 1878.

“Yellow Fever, Fact Sheet No.100.” World Health Organization. Dec 2001. WHO. 21 Feb. 2004. (<http://www.who.int/inf-fs/en/fact100.html>)

VITA

Mary Jane Duke Russell was born in Eupora, Mississippi, on September 11, 1937. She received her bachelor's degree in political science from Louisiana State University and Agricultural and Mechanical College in 1990. She is currently finishing her master's degree in anthropology from Louisiana State University and Agricultural and Mechanical College, and will receive her degree in May of 2005. Ms. Russell is interested in all aspects of the human condition and plans to pursue further research upon fast approaching retirement from industrial employment.